Task Force Fox
and
IRTF(L)

Lex Bubbers

lex@reinforce.nl

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OSD, USA DoD

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Contents

- Objectives of the case study
- Scope and constraints
- Bottom line up front
- Solution strategy
- Analysis
- Conclusions
- Insights and interpretation
- Recommendations
- Future challenges

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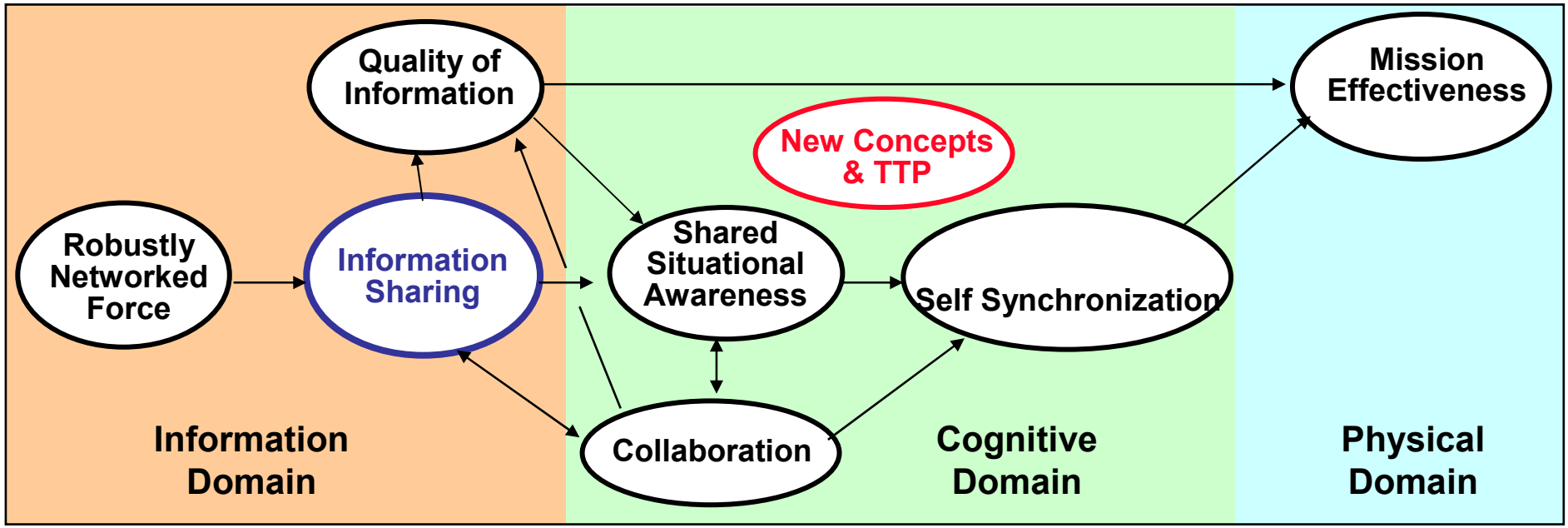
Objectives of the case study

- Problem formulation
  - Given
    - Operations other than war on the Balkans
    - The NCW background of the RNLA
    - The availability of a.o. ISIS
  - Key questions
    - To what extent were **NCO capabilities applied** in Operations Other Than War by Task Force Fox during NATO Operation Amber Fox?
    - What was the **nature of the process** that enabled the transformation to Network Centric Operations?
    - Can the Network Centric Operations **Conceptual Framework** be employed to effectively describe NCO in OOTW as well as to the transformation processes required to achieve relatively mature NCO?

Objectives of research (2)

– Hypothesis
  - The tenets of NCW are applicable to OOTW as during Task Force Fox

– The basic tenets of NCO



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Bottom line up front

- Findings
  - Within limits the **tenets** of NCW are **applicable** to OOTW as during Task Force Fox
    - through sharing of information, enhanced Situational Awareness and collaboration
  - The limits were dictated by the strategic, political multi national context of TFF that made broad **sharing** of information operational **undesirable if not impossible**
- Insights
  - In order to deal with the complex information management during OOTW a properly designed info structure enables the necessary operational capabilities and flexibility

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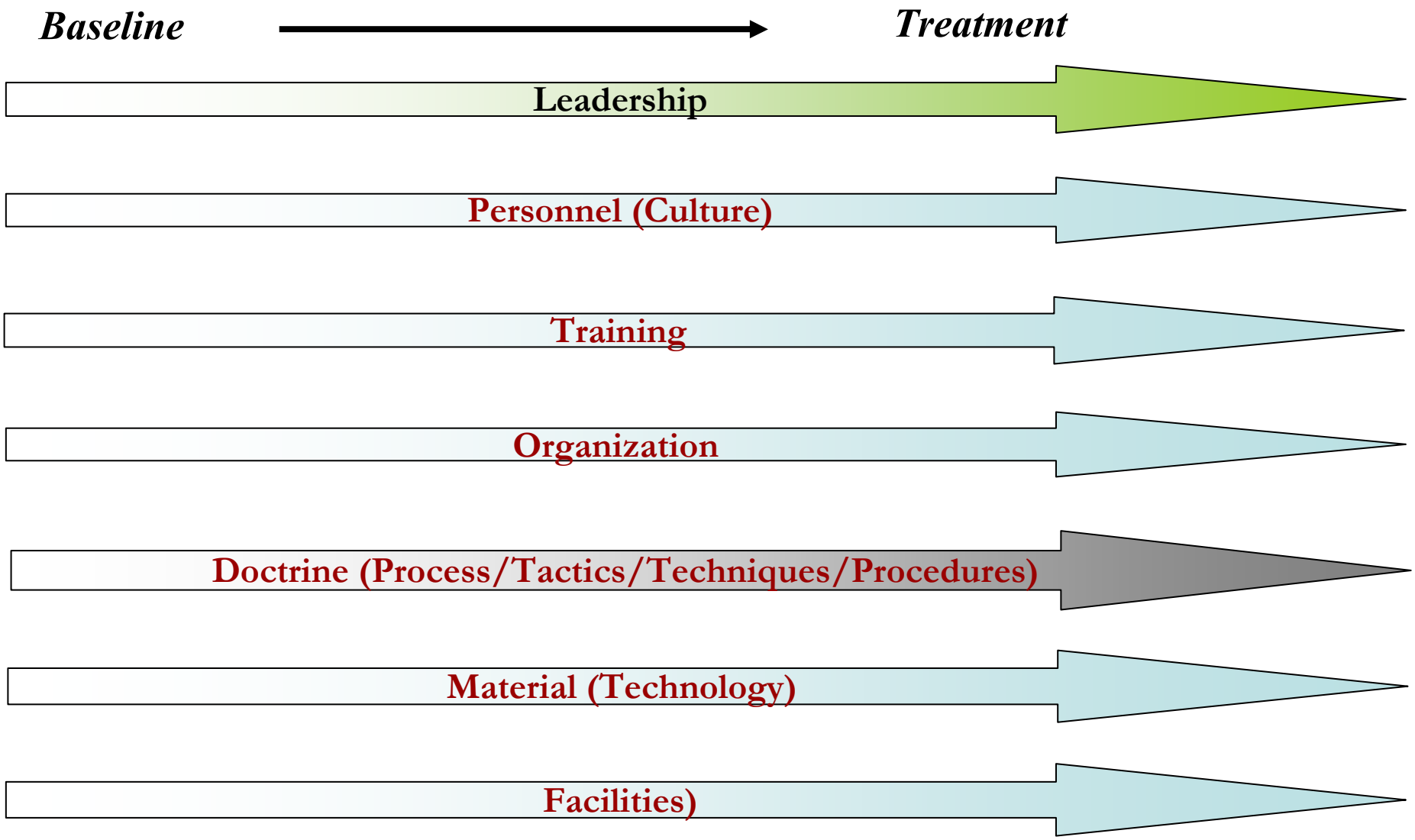
Solution strategy

- Methodology
- The strategic context
- Mission and Organization

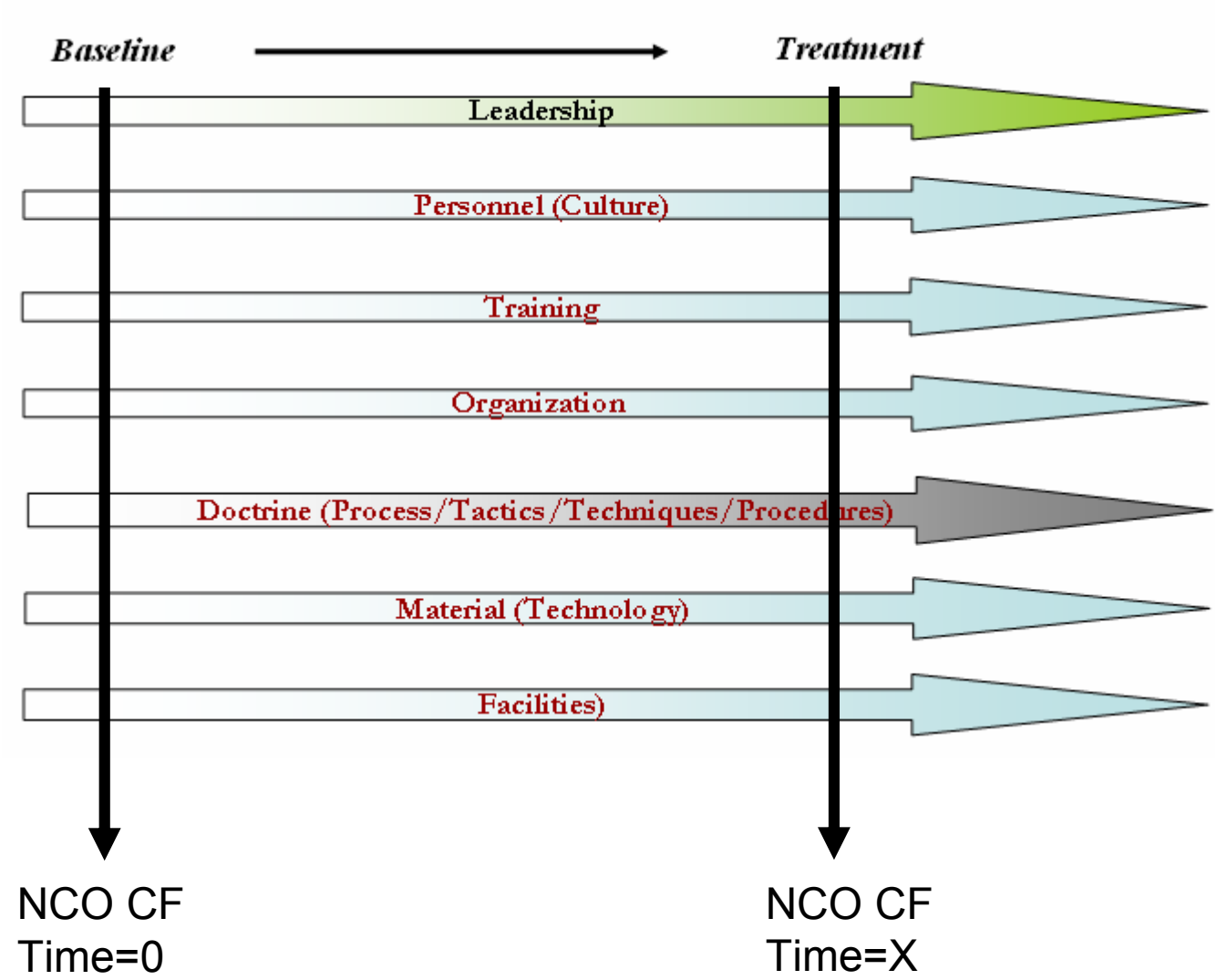
Methodology

The key elements of transformation



Methodology

The interaction of the key elements and the CF



The strategic context

Task Force Fox in the Former Yugoslavian Republic Of Macedonia

In the **September 2002 parliamentary elections**, voters swept aside the ruling IMRO-DPMNU-led coalition in a contest seen as a crucial test of the Western-backed peace agreement. The IMRO-DPMNU took just 30 seats in the 120-seat Sobranje after running a campaign of nationalist rhetoric directed against ethnic Albanians. The election was carried convincingly by the center-left Together for Macedonia coalition, a group of parties led by the Social Democratic Alliance of Macedonia (SDAM).

Historical background

- **Sept 1991**
  - **Macedonian republic declared independence from Yugoslavia**
- **1995**
  - **International recognition**
- **1995-1999**
  - **UN Preventive Deployment: to monitor and report any developments in the border areas which could undermine confidence and stability in the former Yugoslav Republic of Macedonia and threaten its territory**
- **1999**
  - **FYROM stayed out of Kosovo war, supported NATO**
  - **360.000 Albanian refugees resulted in tensed ethnic relations**
- **Spring 2001**
  - **Military conflict between Albanians rebels and FYROM**
- **June 2001**
  - **Cease fire by European Union officials**
  - **NATO operation Essential Harvest: disarmament of insurgents**
- **End 2001- end 2002**
  - **Operation Amber Fox of which Task Force Fox was part**

TFF operational background

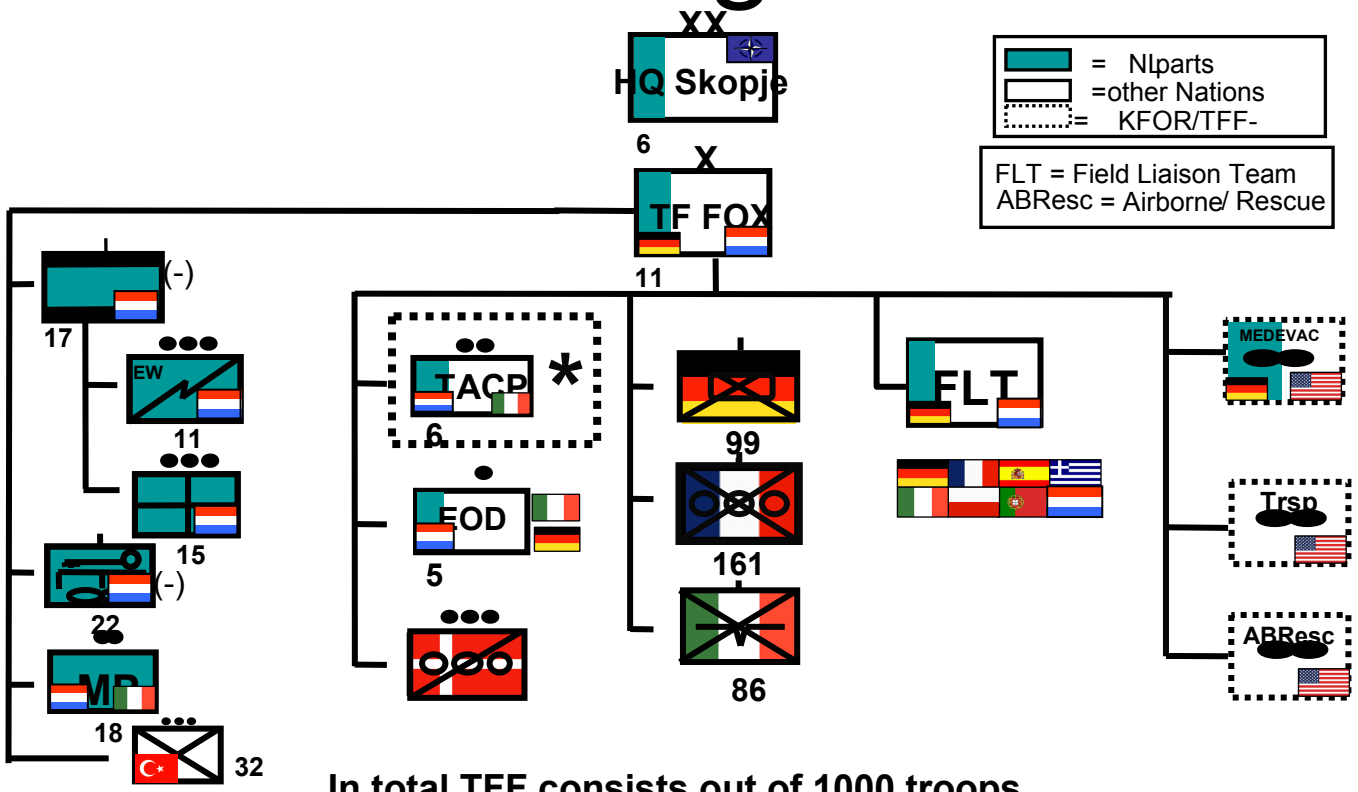
- Mission Task Force Fox
  - Provide information- and liaison support to the IC-monitors

  - Provide military support

  - Conduct two concurrent emergency extraction operations

  - Ensure Force protection

TFF task organization



In total TFF consists out of 1000 troops.

Headquarter TFF (NL, GE, GR, BE, FR, IT, DA)

German COY

French Coy

Italian Coy

Danish reconnaissance platoon

33 FLT teams (NL, IT, FR, GE, GR, PORT, POL, SP)

Logistic national (NL, IT, GE, FR) support units.

NL HQ COY

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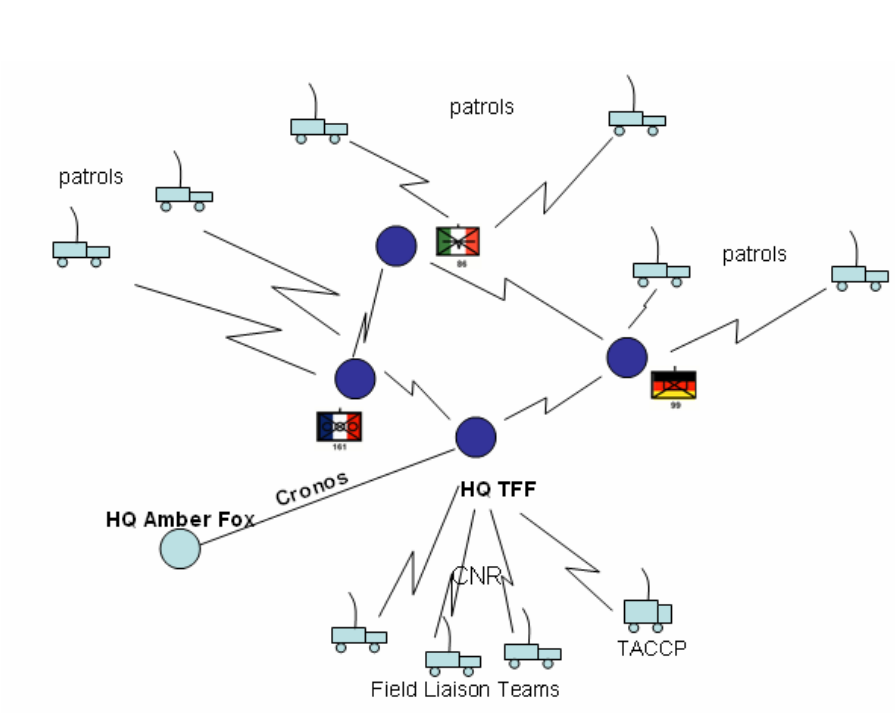
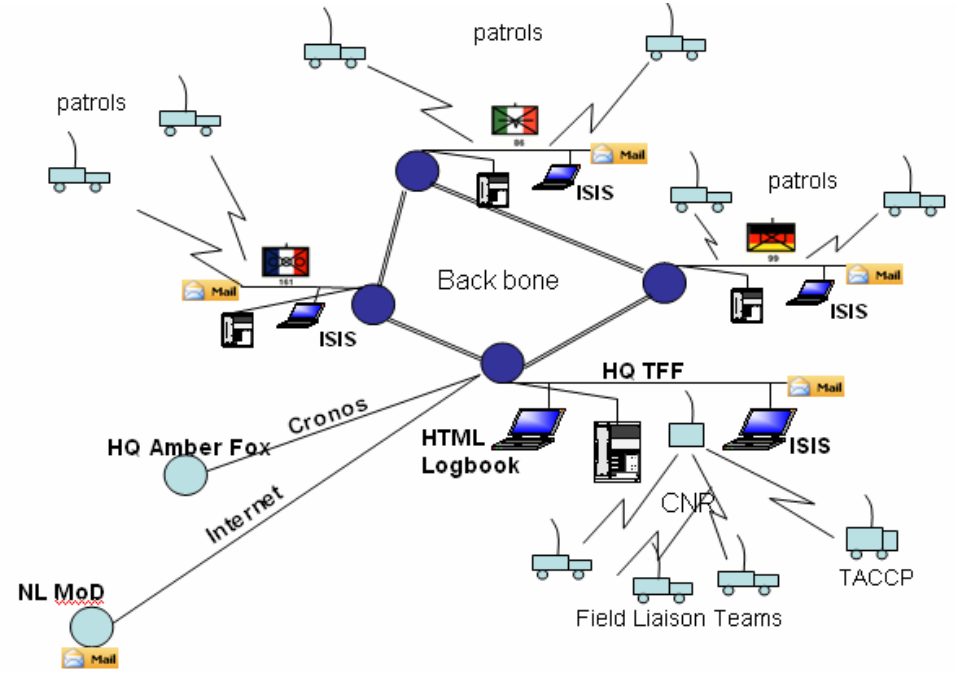
Baseline ⟶ ***Treatment***

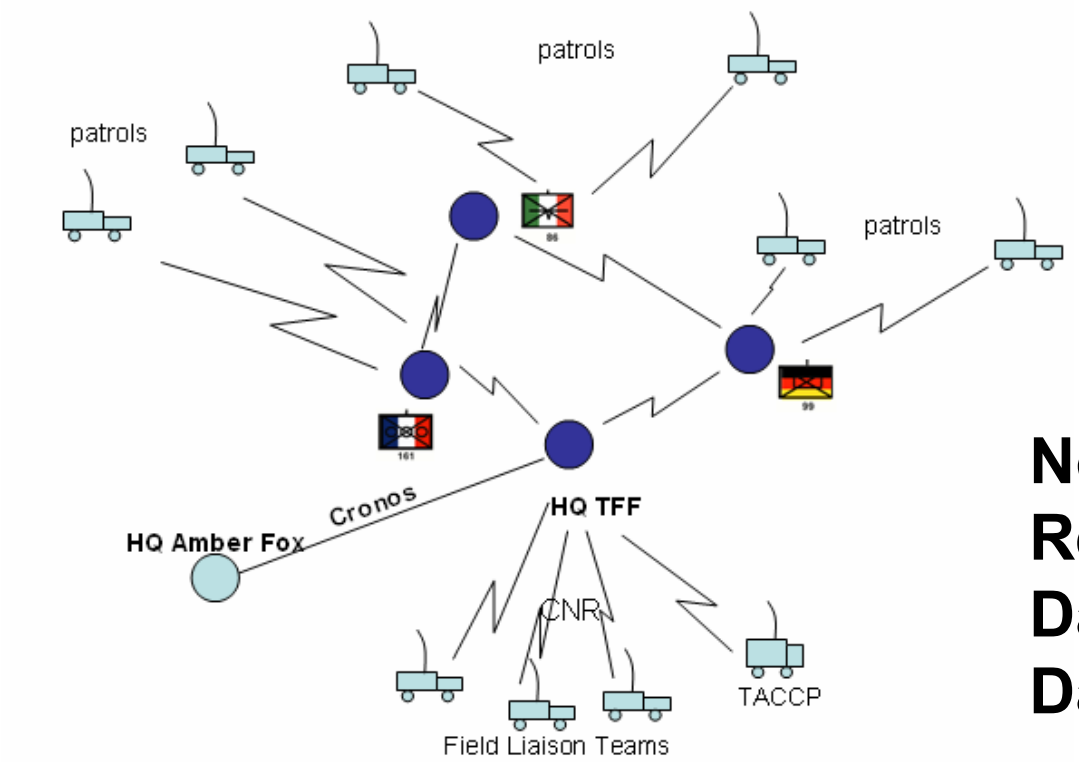
Material (Technology)





Baseline

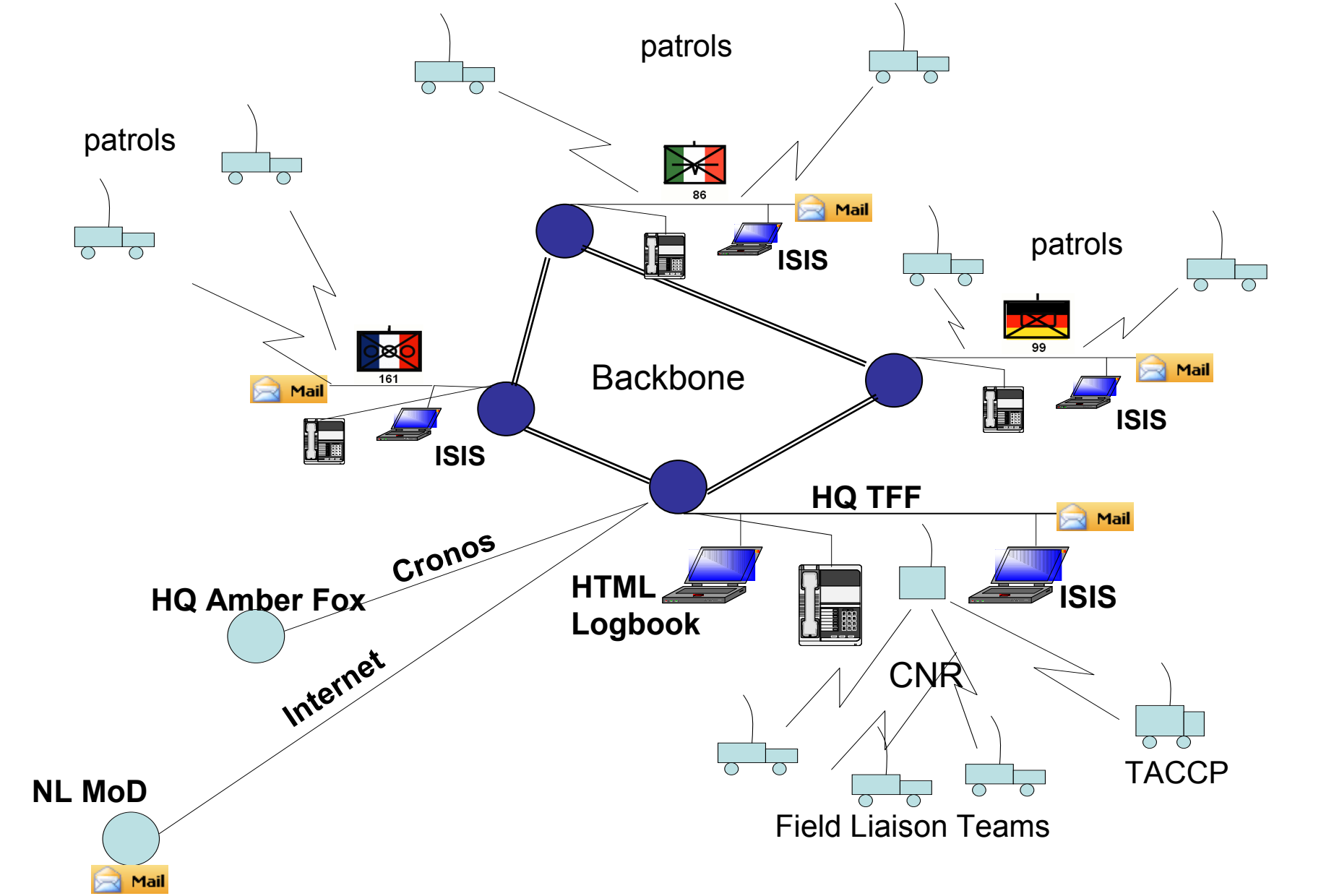
Material (Technology)

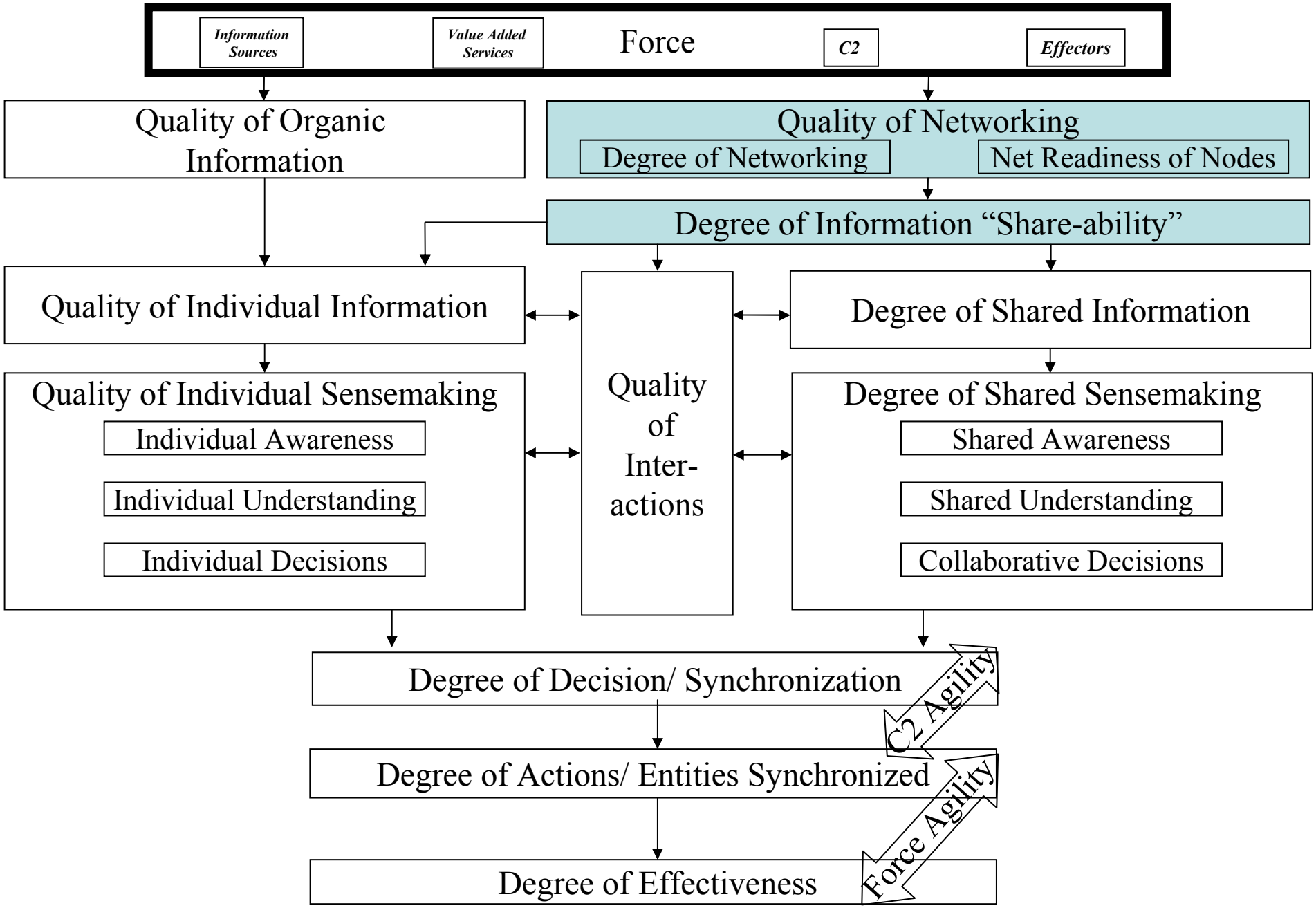


No available network
Reporting via voice (CNR)
Data collection on maps
Daily reports to HQ AF

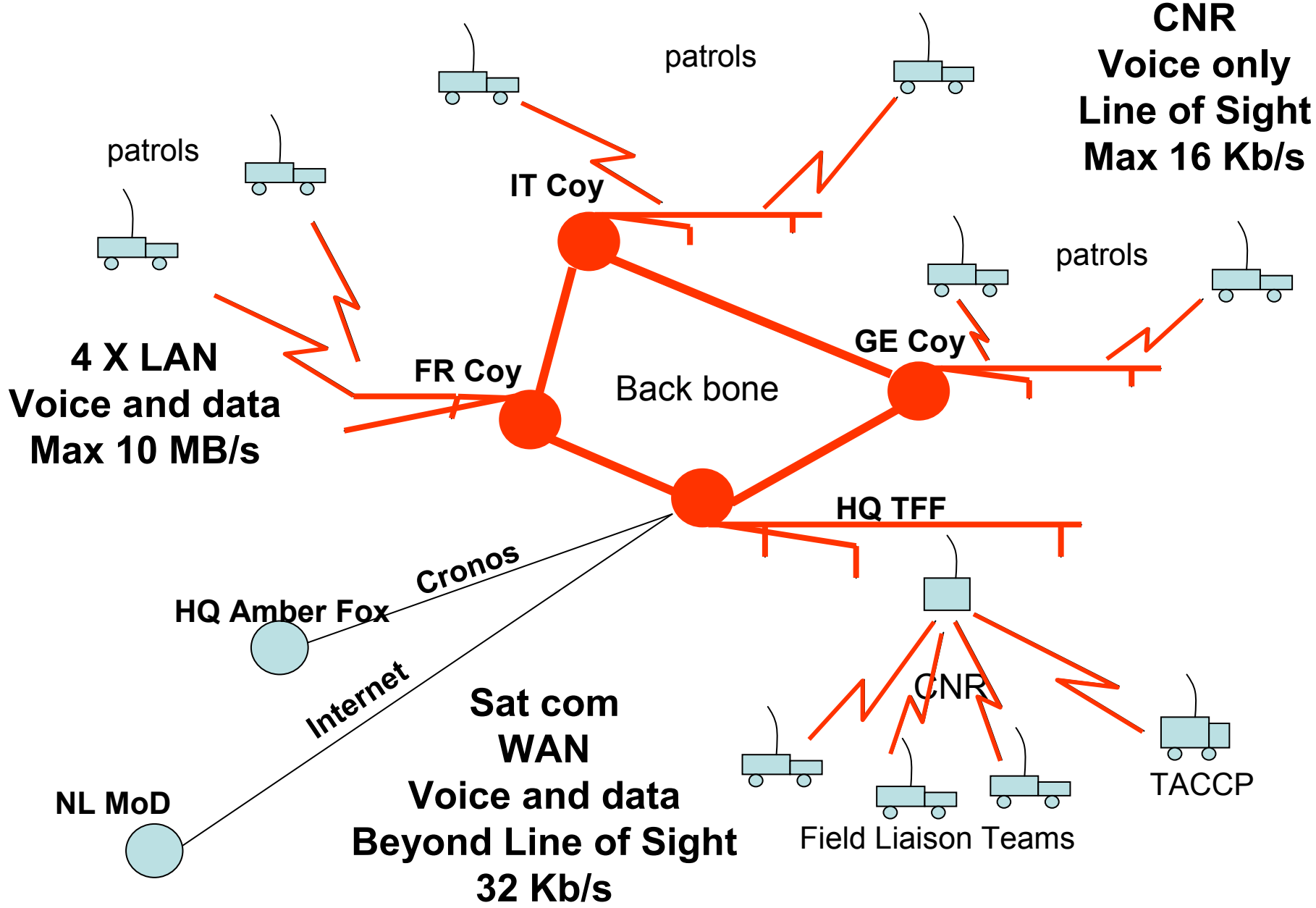
Treatment

Material (Technology)




Information Sources
Value Added Services
Force
C2
Effectors
Quality of Organic Information
Quality of Networking
Degree of Networking
Net Readiness of Nodes
Degree of Information "Share-ability"
Quality of Individual Information
Quality of Individual Sensemaking
Individual Awareness
Individual Understanding
Individual Decisions
Quality of Inter-actions
Degree of Shared Information
Degree of Shared Sensemaking
Shared Awareness
Shared Understanding
Collaborative Decisions
Degree of Decision/ Synchronization
C2 Agility
Degree of Actions/ Entities Synchronized
Force Agility
Degree of Effectiveness

The network

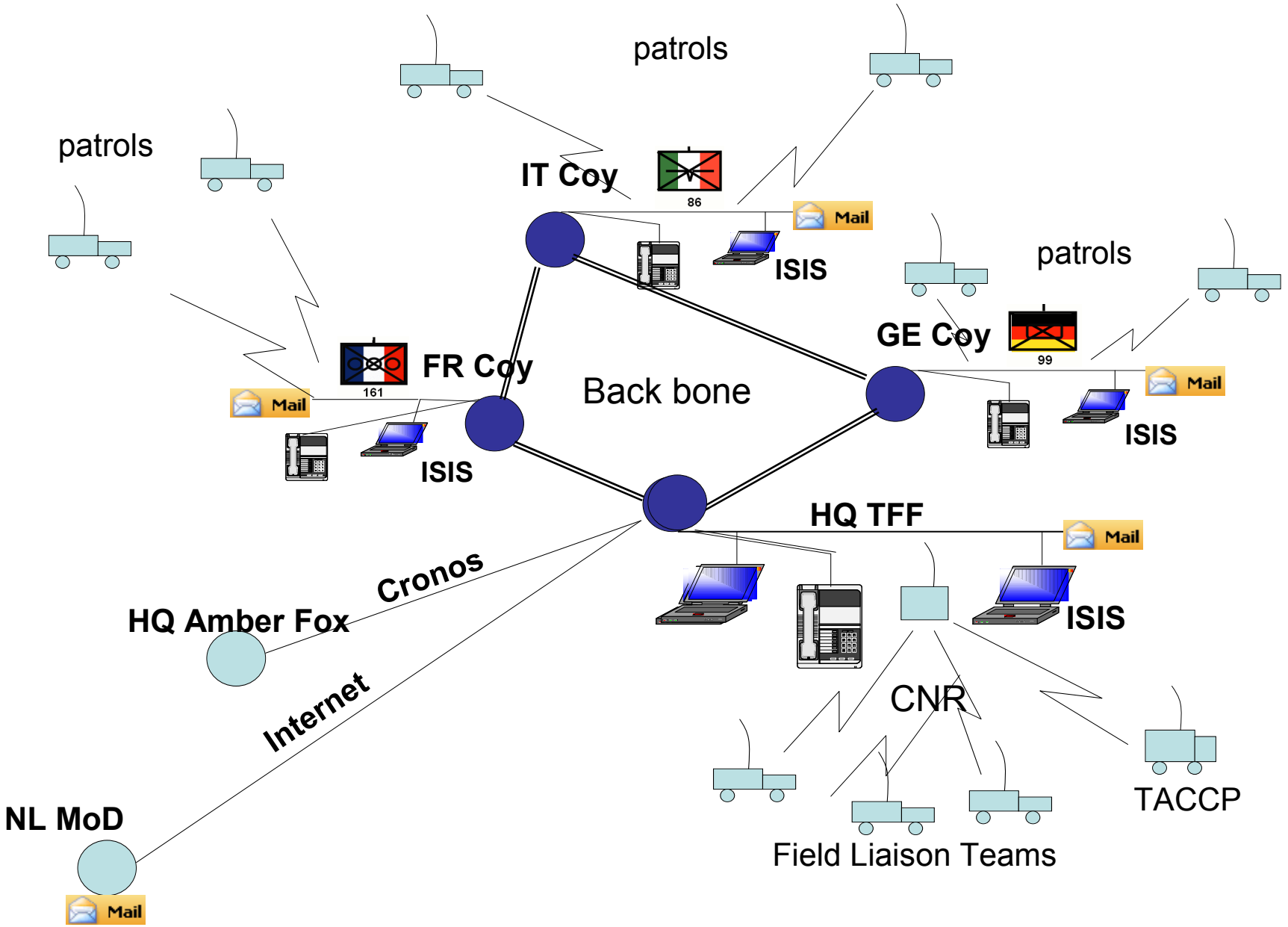

patrols
patrols
patrols
CNR
Voice only
Line of Sight
Max 16 Kb/s
IT Coy
GE Coy
FR Coy
Back bone
4 X LAN
Voice and data
Max 10 MB/s
HQ TFF
Cronos
HQ Amber Fox
Internet
NL MoD
Sat com
WAN
Voice and data
Beyond Line of Sight
32 Kb/s
CNR
TACCP
Field Liaison Teams

	bandwidth	reach	media
CNR	Max 16 Kb/s	Line of sight	Voice
LAN	10 Mb/s	Local	Voice and data
WAN	32 Kb/s	Beyond line of sight	Voice and data

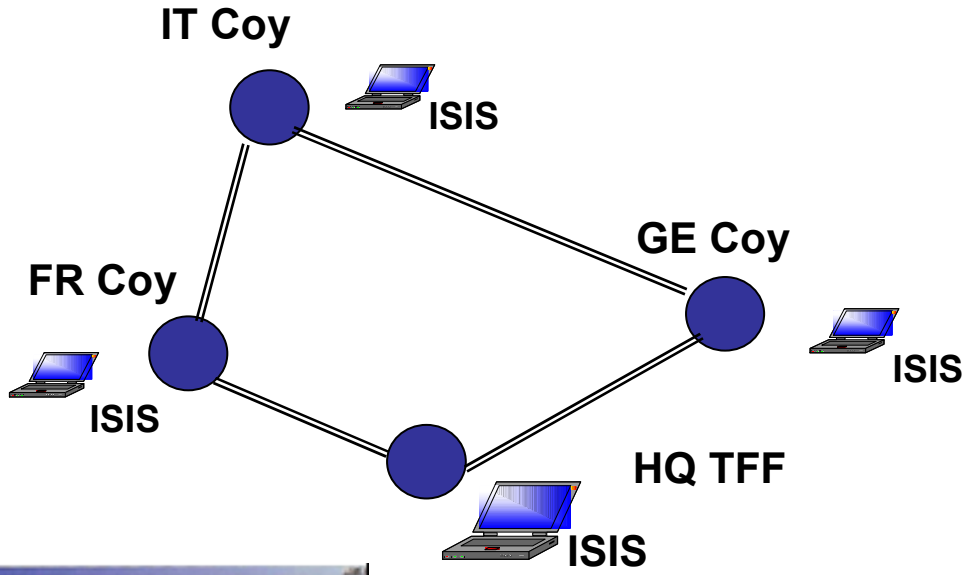
Degree of networking
Reach

	Baseline	Treatment
HQ TFF	1	4
Extraction Coys	1	4

The deployed applications

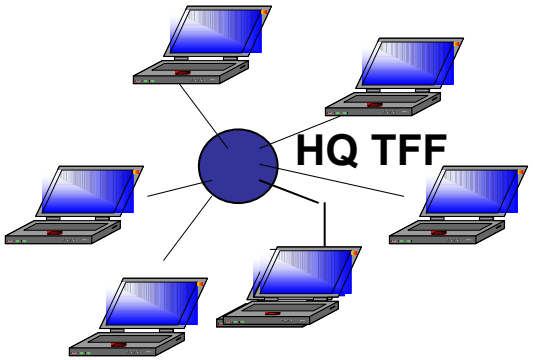


The Integrated Staff Information System



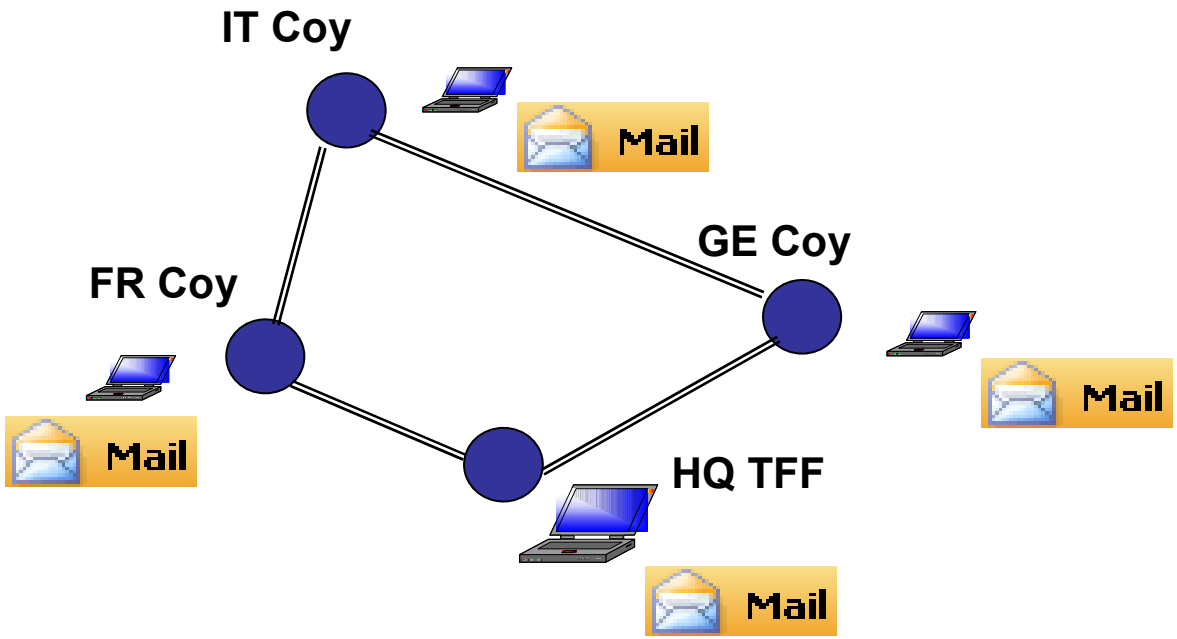
Ca 100 workstations in HQ TFF
3 workstations per Extr Coy
Generic C2 functionality:
1-9 information sets
Near real time updated COP
Selective date base replication

HTML logbook



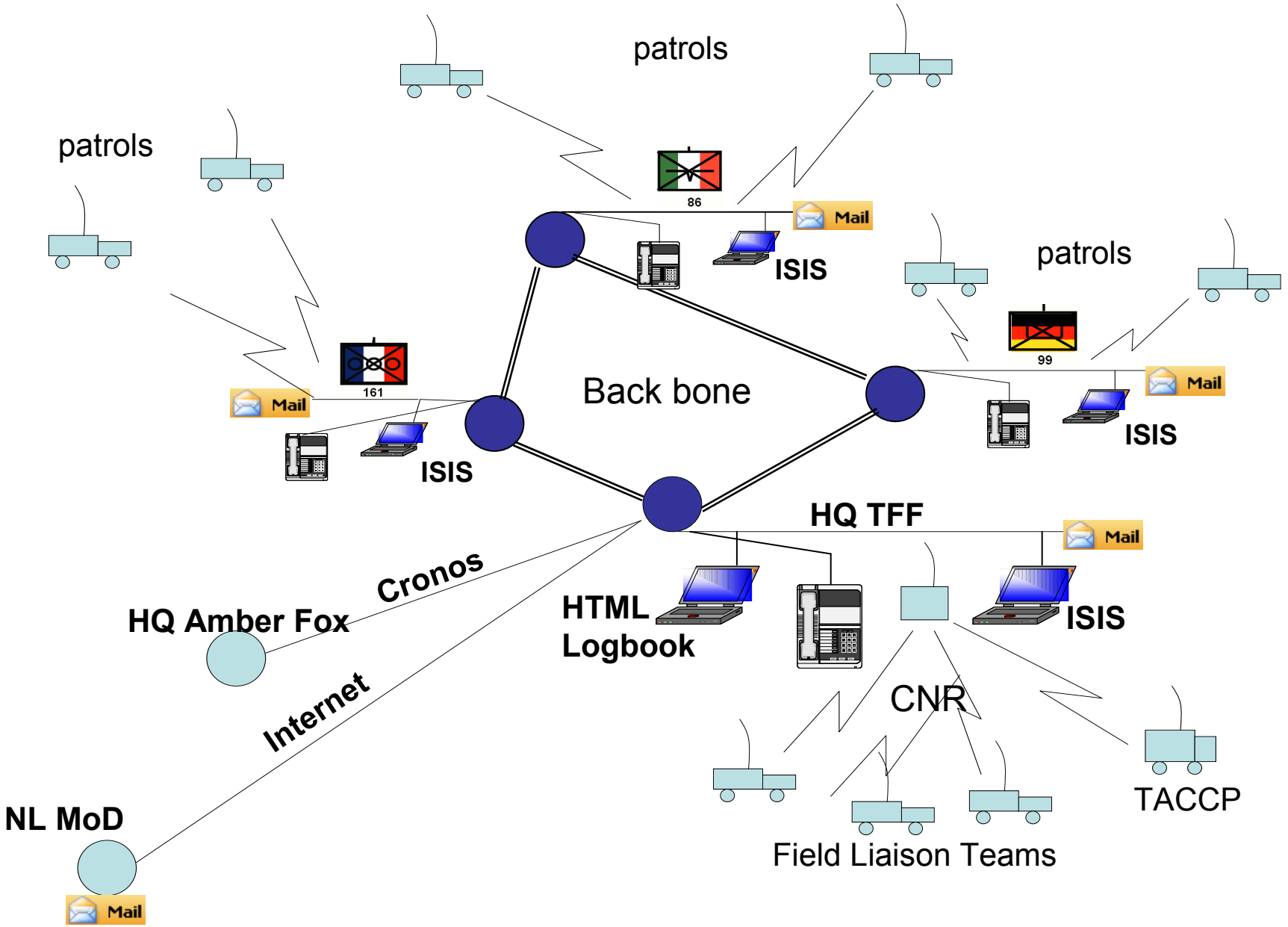
Within HQ TFF
Ca 100 workstations
Plain text
One place for insertions

E-mail

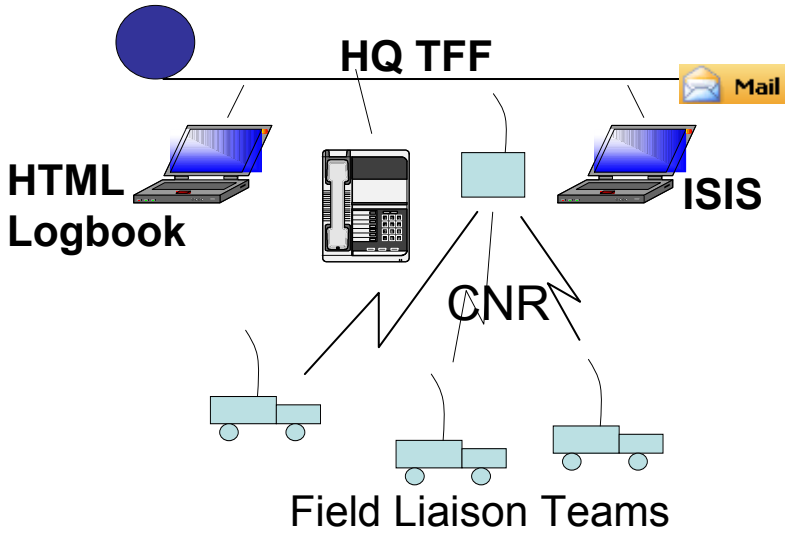


Msft Outlook
For everybody accessible
No formal military messaging
Archiving

The information flows

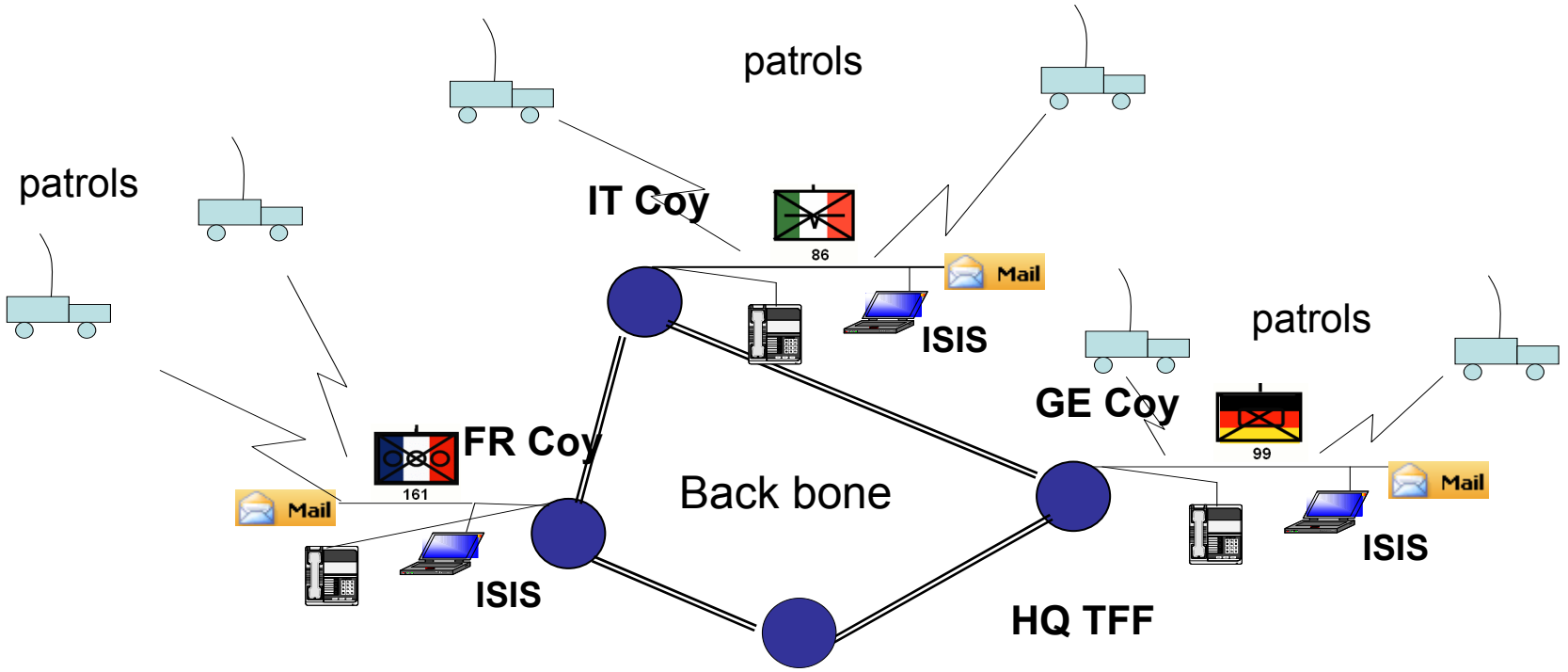


Sensors: Field Liaison Teams



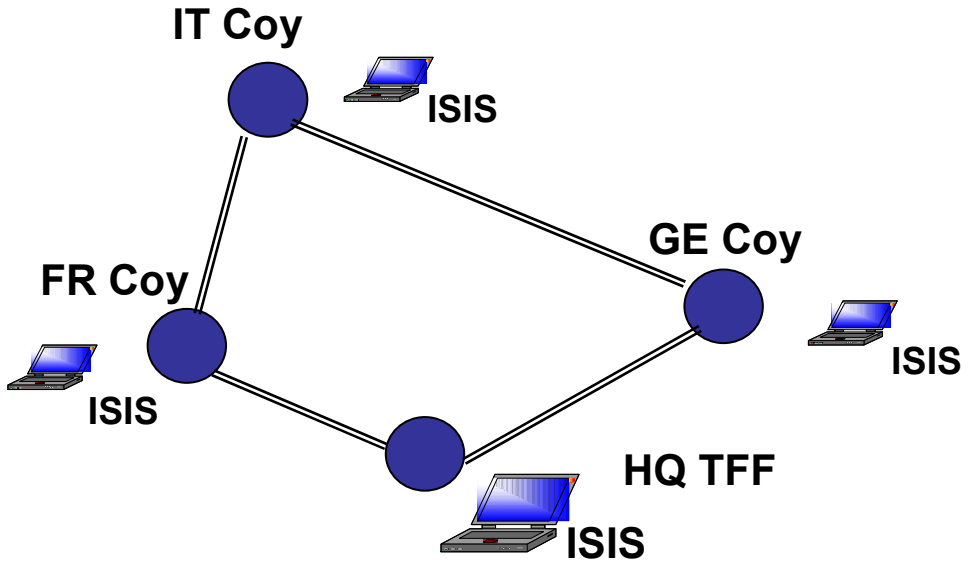
- **Via voice**
- **To the battle captain**
- **After processing**
- **Inserted in HTML logbook**
- **Eventually copied into ISIS**
- **Feed back via LSO team**

Sensors: Patrols



Via voice to their Coy HQ's:
-Reports
-Locations
From there in ISIS

ISIS: information flows

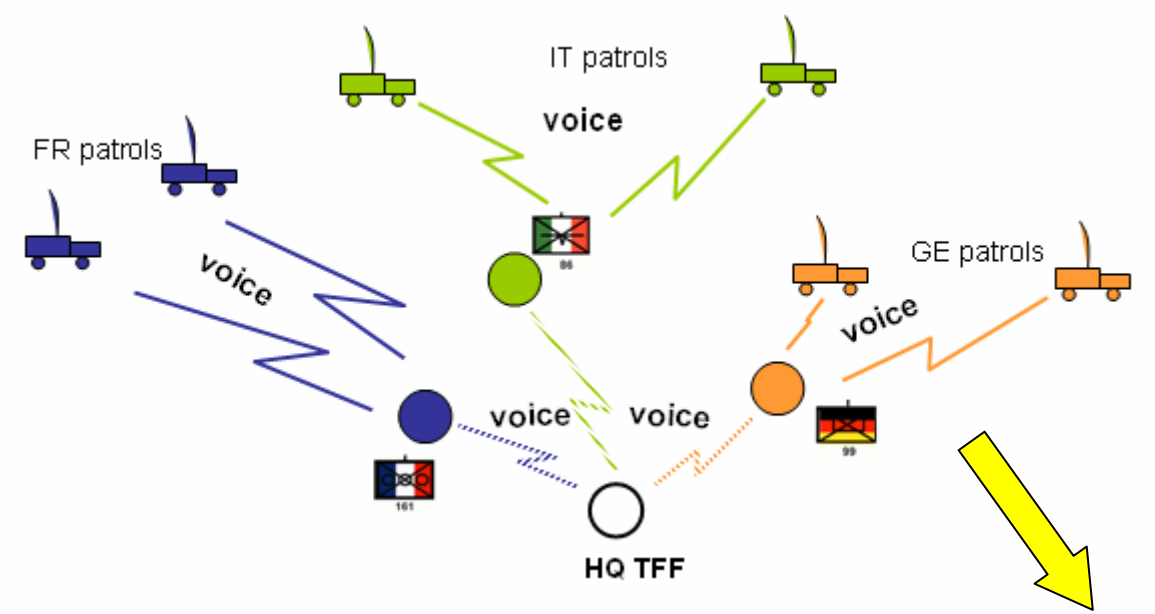


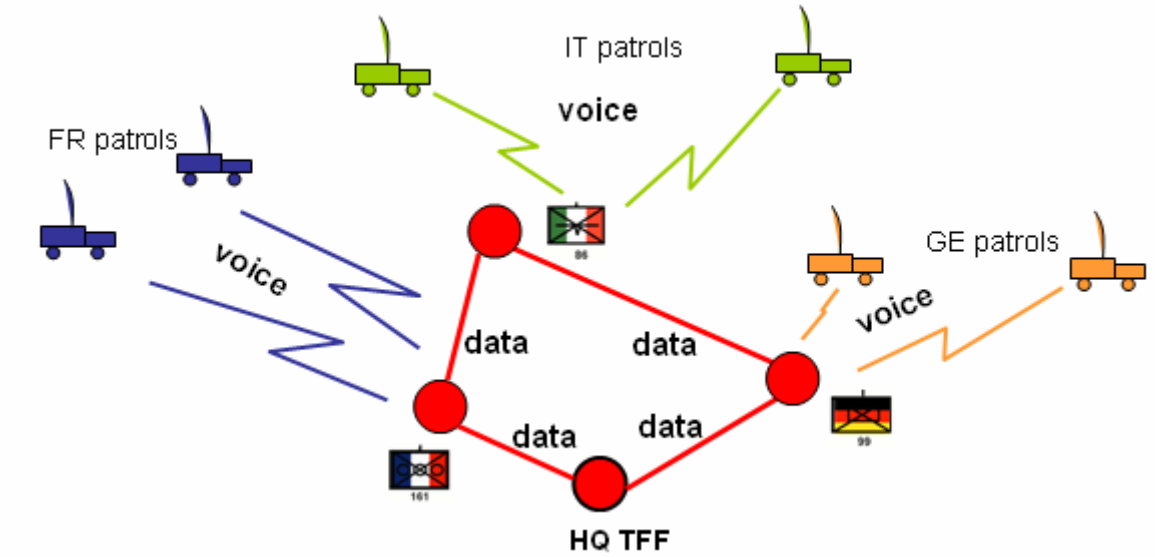
- Information from FLT's was inserted in ISIS in HQ TFF and visible to coy's
(copied from HTML logbook)

- Information from patrols was inserted by coy's and visible to all

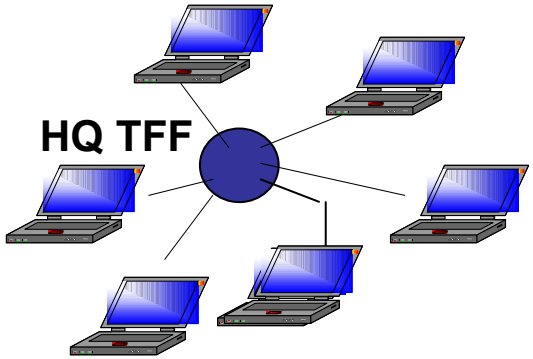
- C2 information (planning of contingencies) was shared via ISIS
    - e.g. the up scaling before the elections

Language barriers





HTML logbook: information flows



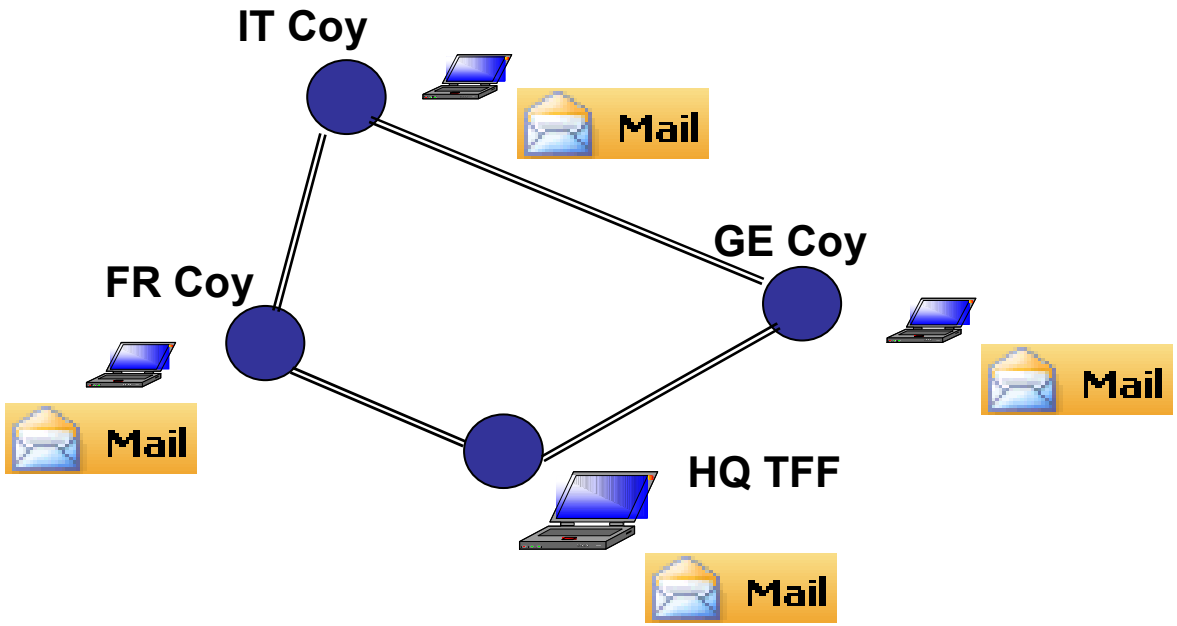
-Information from FLT's (voice) was by one person inserted in the logbook and accessible to all in HQ TFF

- The information was processed before posted

- In cases of emergency this led to information overflow

-All interviewed persons considered this application as the killer application

E-mail: information flows



-**Mail was point-to-point available for all workstations**

What have the applications in common?

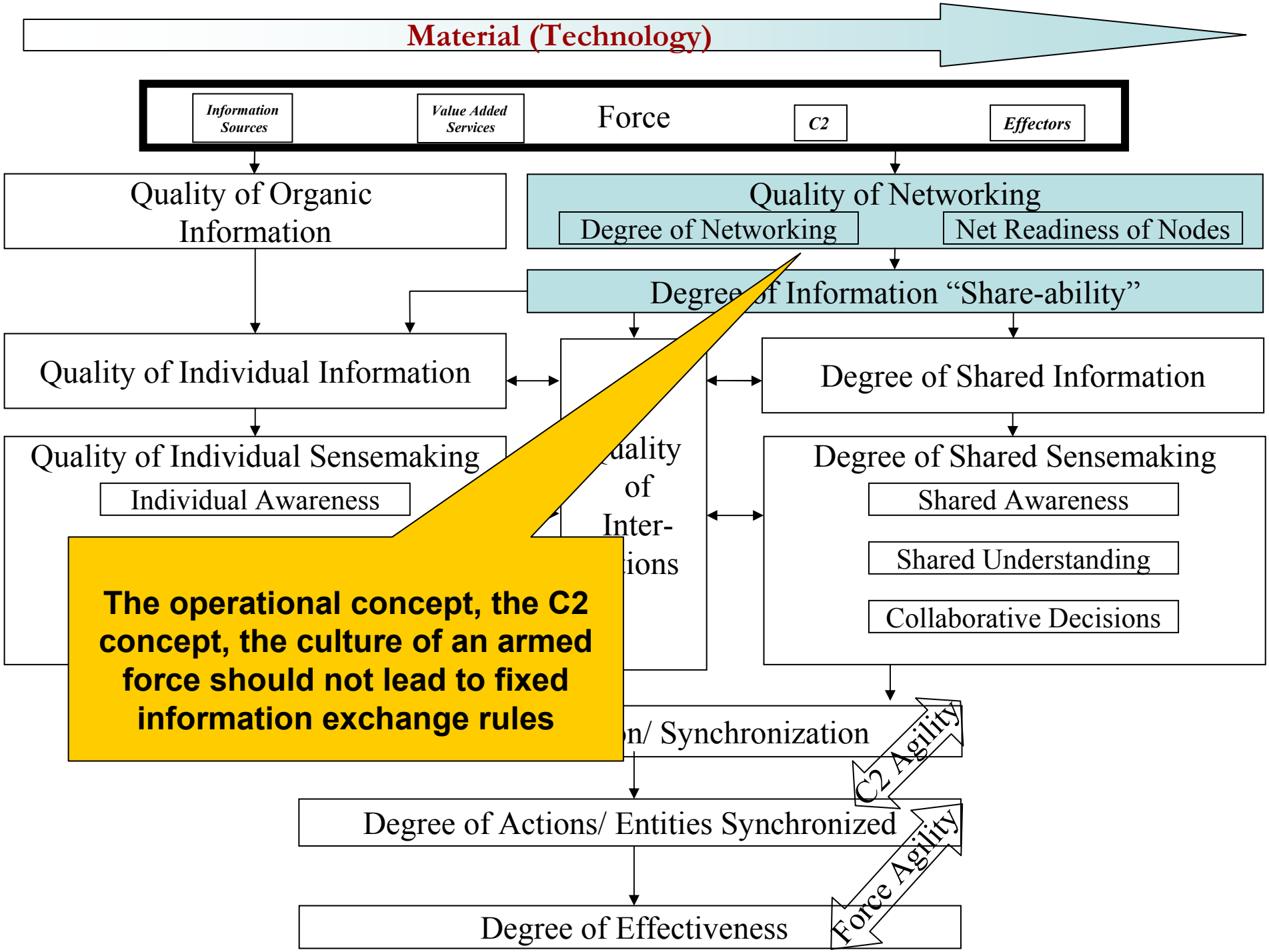
- No internal procedures
- No prescribed information exchange
- No inherent C2 concept

Thus enabling…..

-Acceptance by combined force

-Flexible change of ways of operating

-Transformation!


Material (Technology)
Information Sources
Value Added Services
Force
C2
Effectors
Quality of Organic Information
Quality of Networking
Degree of Networking
Net Readiness of Nodes
Degree of Information "Share-ability"
Quality of Individual Information
Degree of Shared Information
Quality of Individual Sensemaking
Individual Awareness
Degree of Shared Sensemaking
Shared Awareness
Shared Understanding
Collaborative Decisions
The operational concept, the C2 concept, the culture of an armed force should not lead to fixed information exchange rules
n/ Synchronization
C2 Agility
Degree of Actions/ Entities Synchronized
Force Agility
Degree of Effectiveness

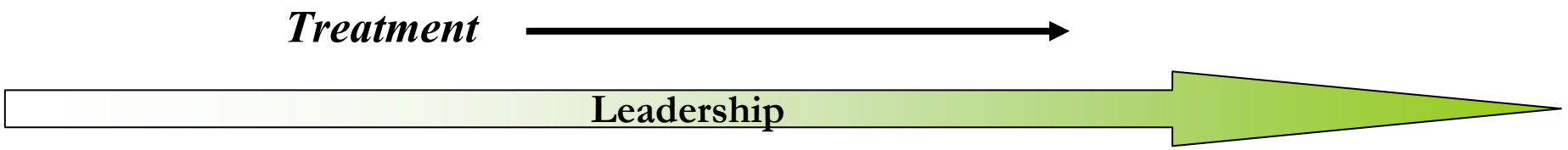
Ease of use

- High degree of acceptance (commander)
  - AO was relatively easy to overview
  - Mapping material was superior and easy to deal with in ISIS
  - Young generation (CCs were 28-29 years old)
  - Daily use promoted acceptance (no escape)
  - Difference with situation before (map & radio) was dramatic
    - SA and diminishing of language barriers

Degree of information share-ability

	Baseline (means)	Treatment (means)	Baseline (information share ability)	Treatment (information share ability)
HQ TFF	VR	VR+I+E+H	Low	Very high
Extraction Coys	VR	VR+I+E	Low	High

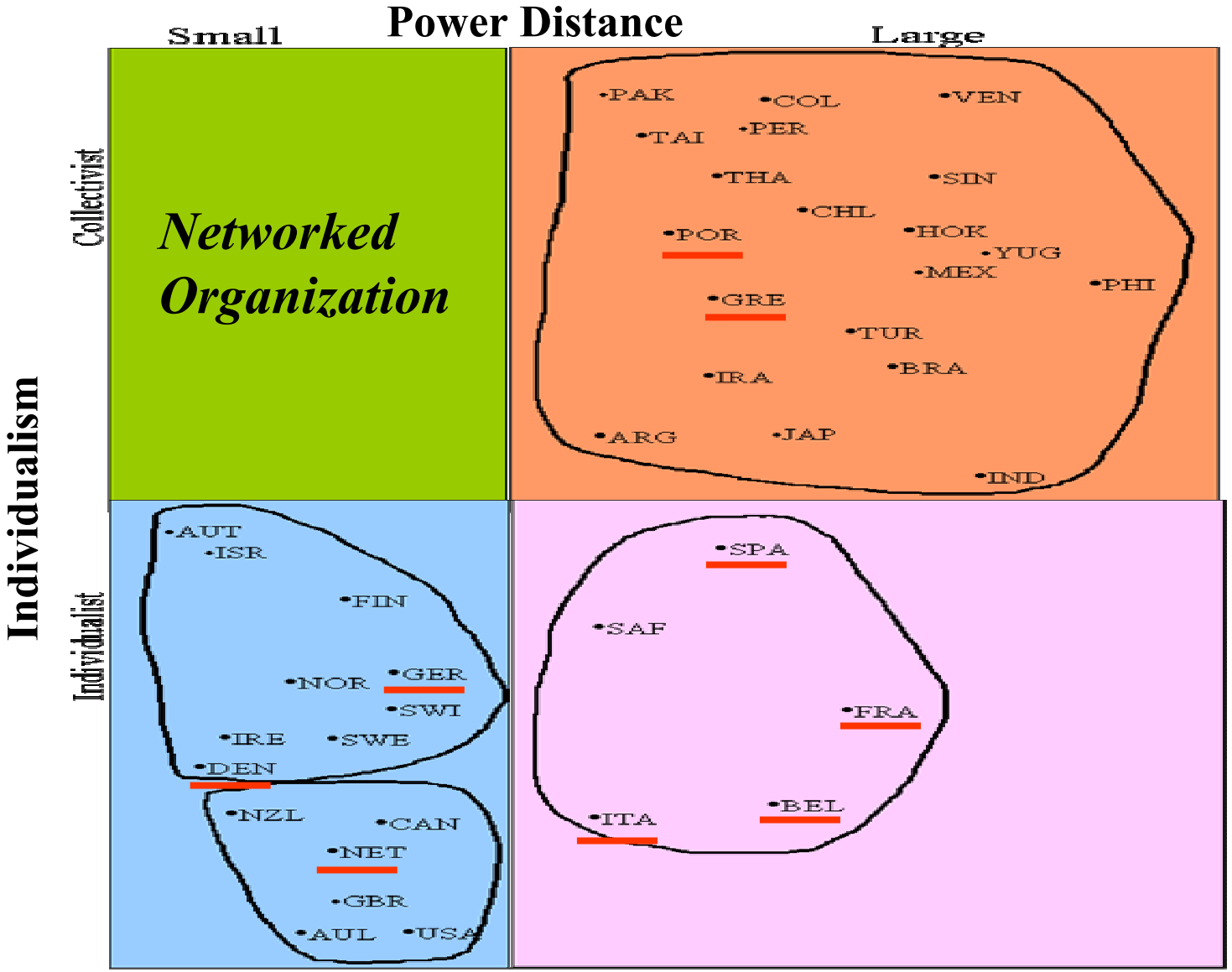
VR=voice reports I=ISIS H=HTML logbook E=e-mail



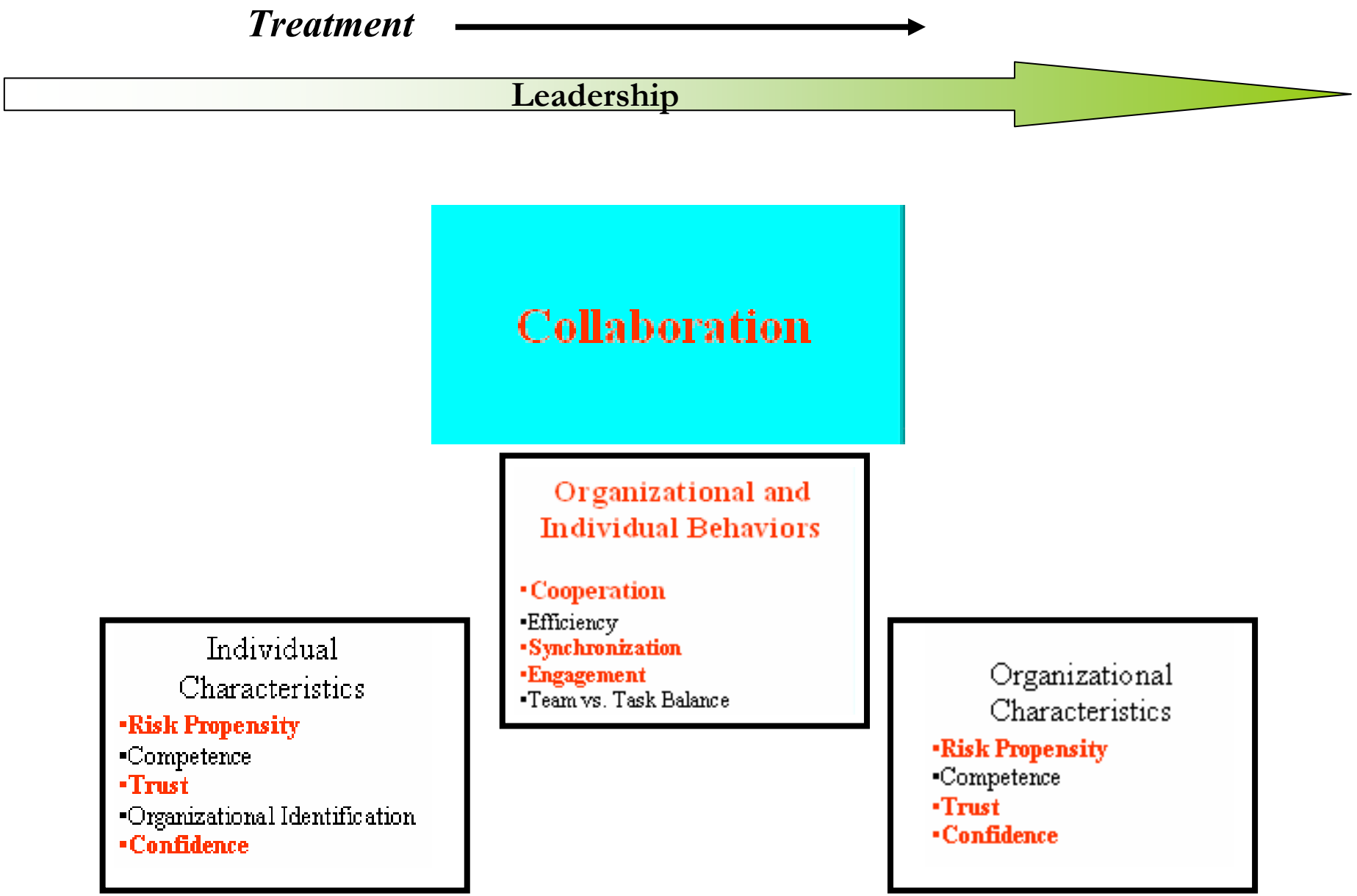
- Initial actions after handover of lead nation-ship
  - Give the units and their leaders trust…
    - Entre-nous sessions with company commanders
  - New ways of doing business are welcome: risk propensity
  - Overcoming of the cultural diversity
- Stimulation of networking and collaboration
  - Sharing of information
- *'Other role' for commanding general*
  - Operational: Size of troops relatively small (Bn)
    - Delegation to J3 and JOC director
  - *Political/strategic: focus on FYROM and local stakeholders, SNOs for commitment to CoAs*
    - *Full focus of C*

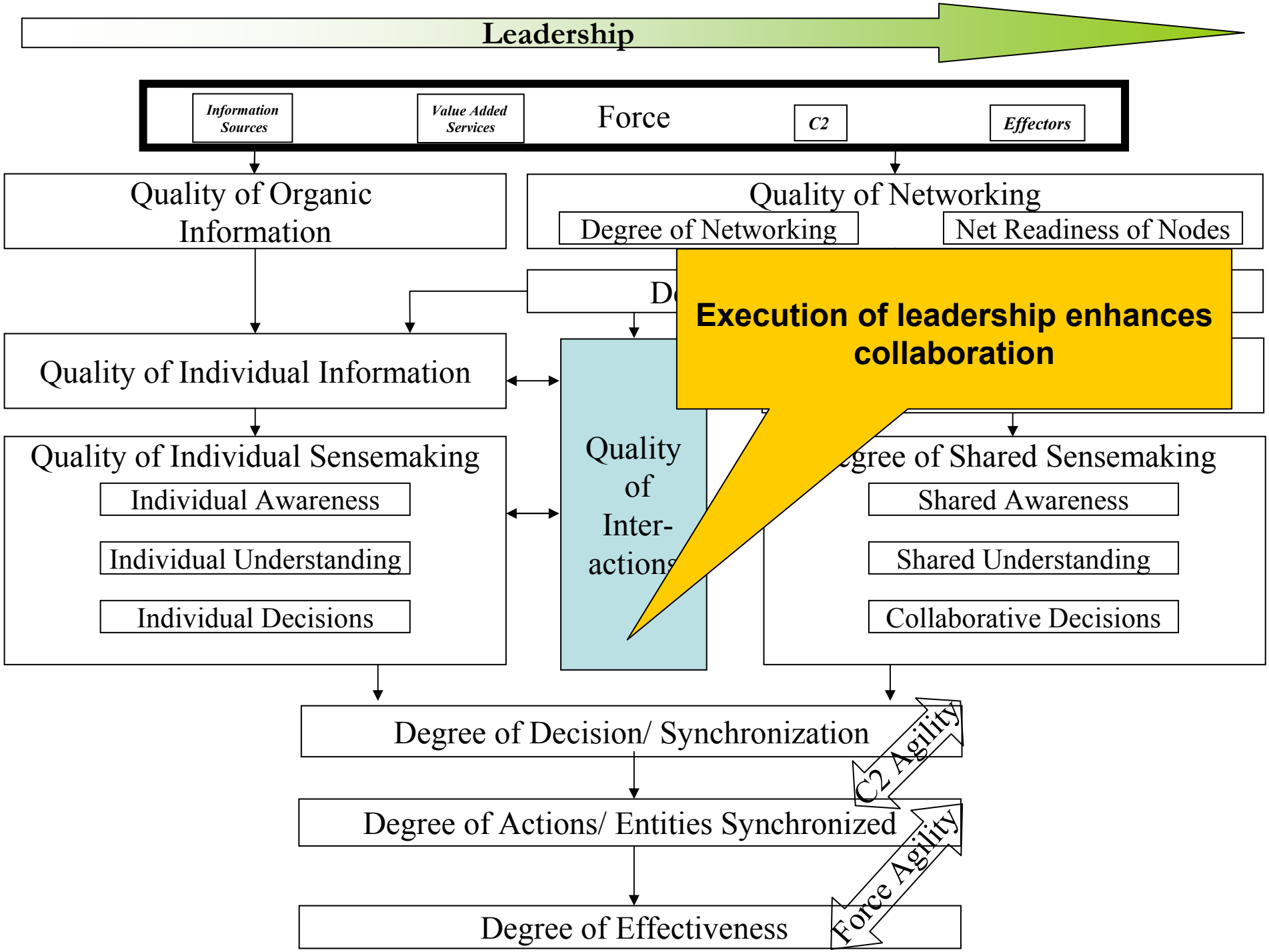
Challenges for leadership

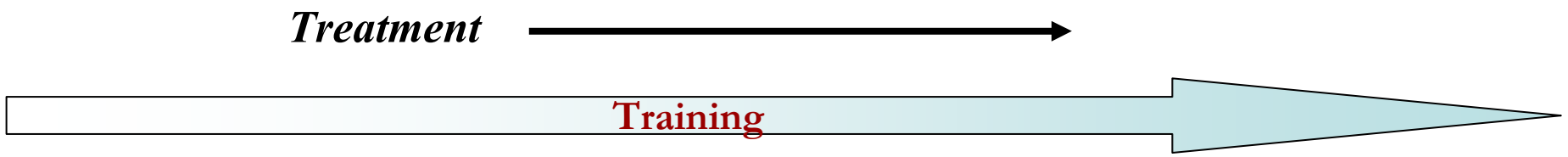
cultural diversity



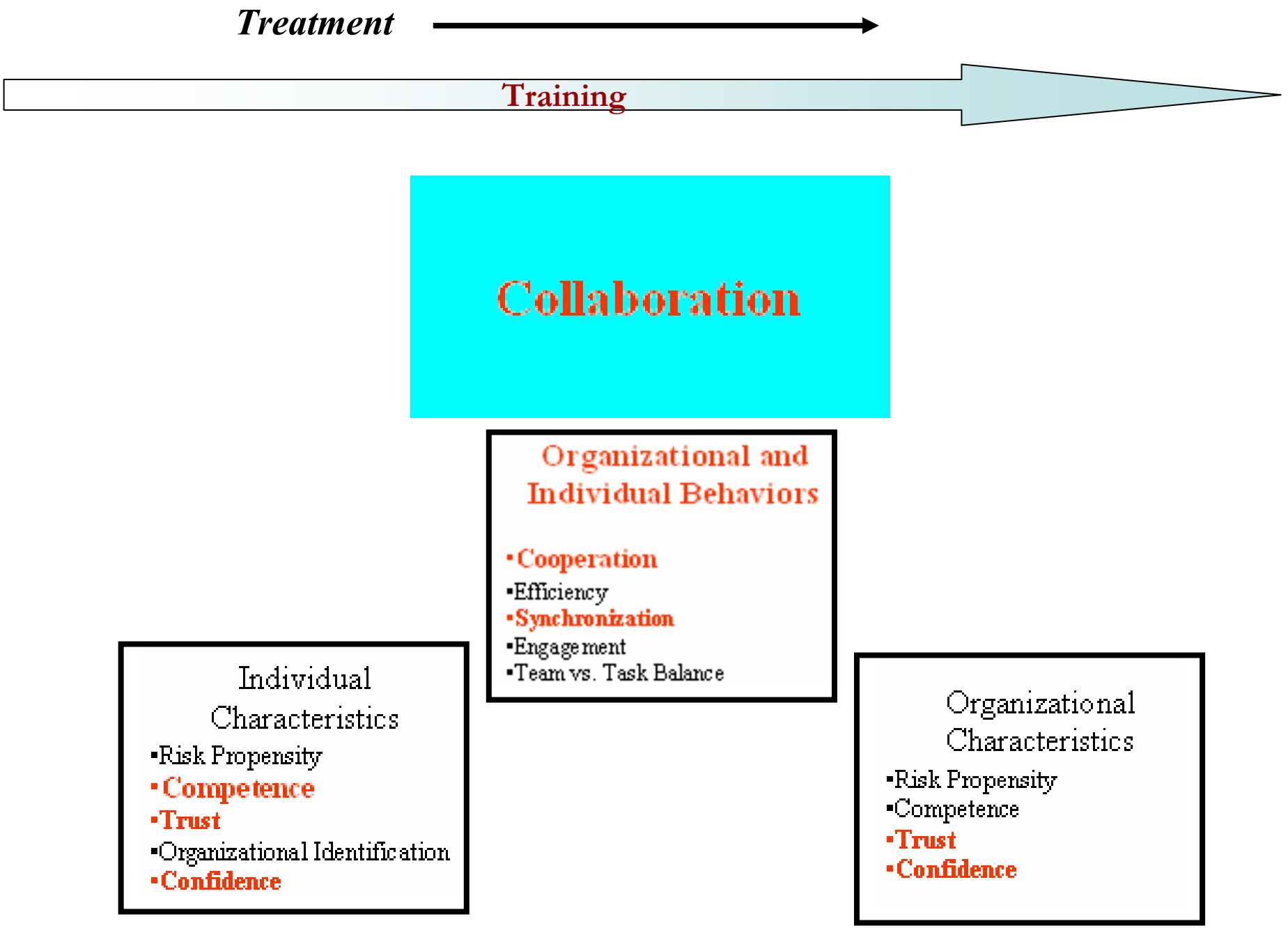
Source??


Treatment
Leadership
Collaboration
Organizational and Individual Behaviors
•Cooperation
•Efficiency
•Synchronization
•Engagement
•Team vs. Task Balance
Individual Characteristics
•Risk Propensity
•Competence
•Trust
•Organizational Identification
•Confidence
Organizational Characteristics
•Risk Propensity
•Competence
•Trust
•Confidence


Leadership
Information Sources
Value Added Services
Force
C2
Effectors
Quality of Organic Information
Quality of Networking
Degree of Networking
Net Readiness of Nodes
Execution of leadership enhances collaboration
Quality of Individual Information
Quality of Individual Sensemaking
Individual Awareness
Individual Understanding
Individual Decisions
Quality of Inter-actions
Shared Awareness
Shared Understanding
Collaborative Decisions
Degree of Decision/ Synchronization
C2 Agility
Degree of Actions/ Entities Synchronized
Force Agility
Degree of Effectiveness



- C2 team
  - Hand picked by the commander!
  - How to build trust?
    - ½ day training for user community
    - On site support the day after
    - In 5-6 days experienced users
  - Each improvement was documented in the C2 SOP
    - ¾ generic, ¼ mission-specific
  - Permanent activity
    - C2 trainer as dedicated job
    - Executive sponsorship
    - Specialists in C2
    - Strong operational background
    - Engine for innovation, trust building etc
    - Builders of informal network (believers)


Treatment
Training
Collaboration
Organizational and Individual Behaviors
•Cooperation
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Individual Characteristics
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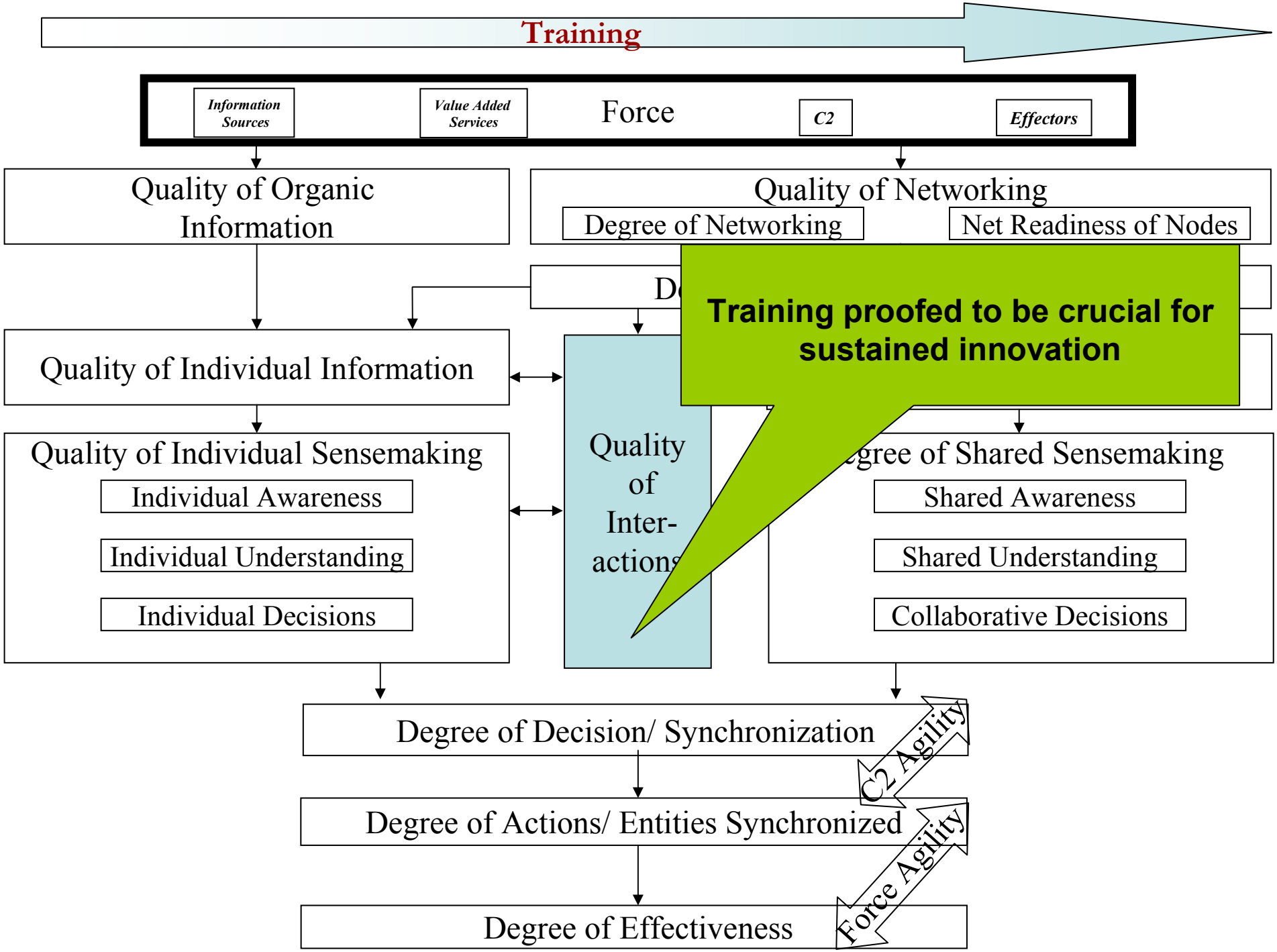

Training
Information Sources
Value Added Services
Force
C2
Effectors
Quality of Organic Information
Quality of Networking
Degree of Networking
Net Readiness of Nodes
Training proofed to be crucial for sustained innovation
Quality of Individual Information
Quality of Individual Sensemaking
Individual Awareness
Individual Understanding
Individual Decisions
Quality of Inter-actions
Shared Awareness
Shared Understanding
Collaborative Decisions
Degree of Decision/ Synchronization
Degree of Actions/ Entities Synchronized
Degree of Effectiveness
C2 Agility
Force Agility

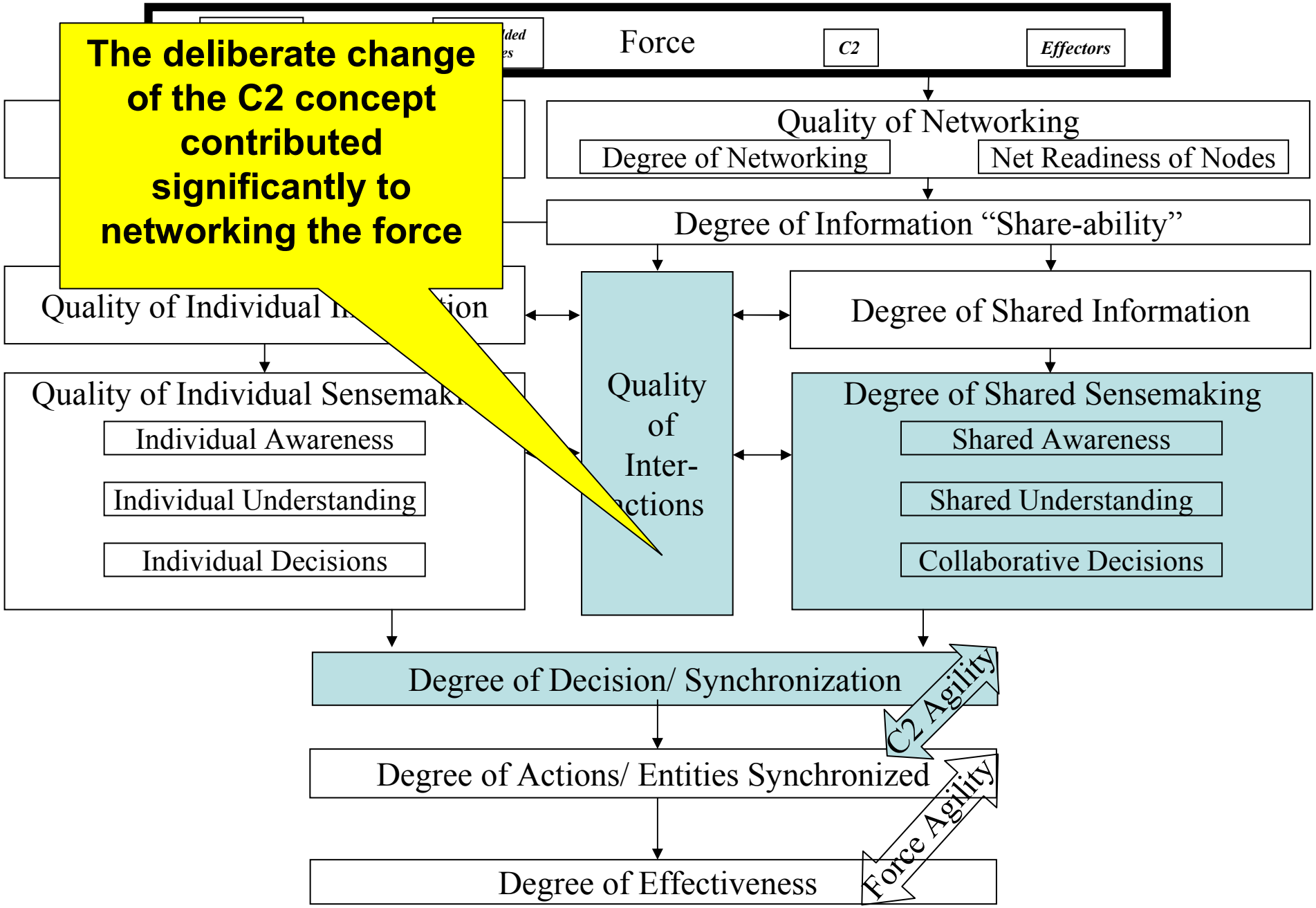
- C2 concept
- Information management
- Battle rhythm

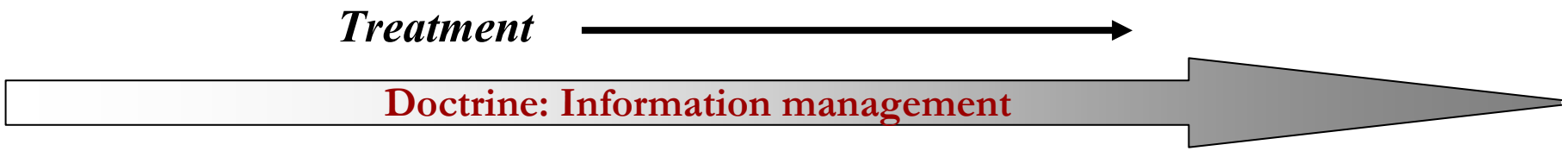
- **C2 concept**
  - **Centralized command**
  - **SA via plastic overlays**
  - **Many language barriers**

- **C2 Intent**
  - **Explicit no interference in activities of sub commanders, though SA might encourage it**
  - **SA optimization by using the technologies**
  - **Open communication, reduction of language barriers**
  - **Re-use of information (vs. copying)**
  - **Transparent procedures**

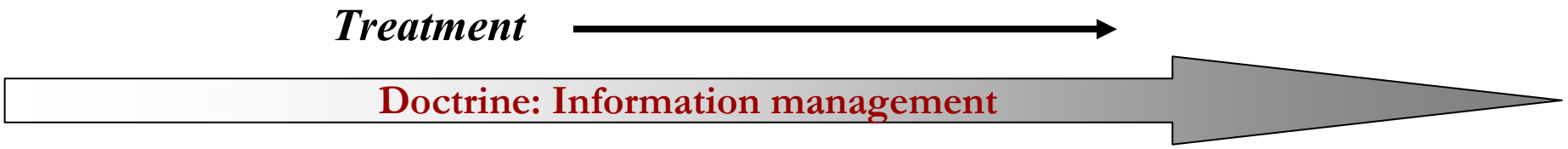
Degree of shared information

	Baseline (means)	Treatment (means)	Baseline (Shared information	Treatment (Shared information)
HQ TFF	Plastic overlays	ISIS+HTML logbook+ mail	Currency Accuracy Precision Collaboration Synchron. LOW	Currency Accuracy Precision Collaboration Synchron. VERY HIGH
Extraction Coys	Plastic overlays	ISIS+ mail	Currency Accuracy Precision Collaboration Synchron. LOW	Currency Accuracy Precision Collaboration Synchron. HIGH

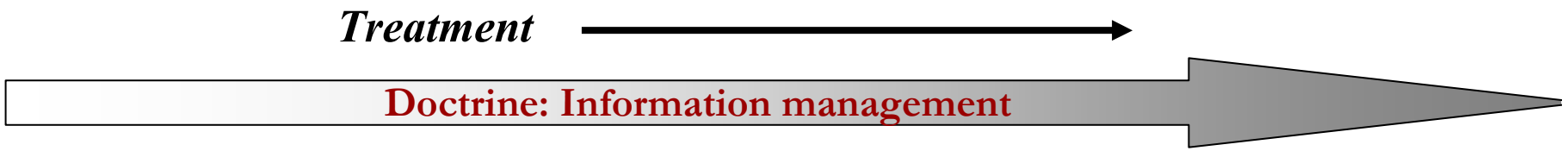

The deliberate change of the C2 concept contributed significantly to networking the force
Force
C2
Effectors
Quality of Networking
Degree of Networking
Net Readiness of Nodes
Degree of Information "Share-ability"
Quality of Individual
Quality of Individual Sensemaki
Individual Awareness
Individual Understanding
Individual Decisions
Quality of Inter-actions
Degree of Shared Information
Degree of Shared Sensemaking
Shared Awareness
Shared Understanding
Collaborative Decisions
Degree of Decision/ Synchronization
Degree of Actions/ Entities Synchronized
Degree of Effectiveness
C2 Agility
Force Agility



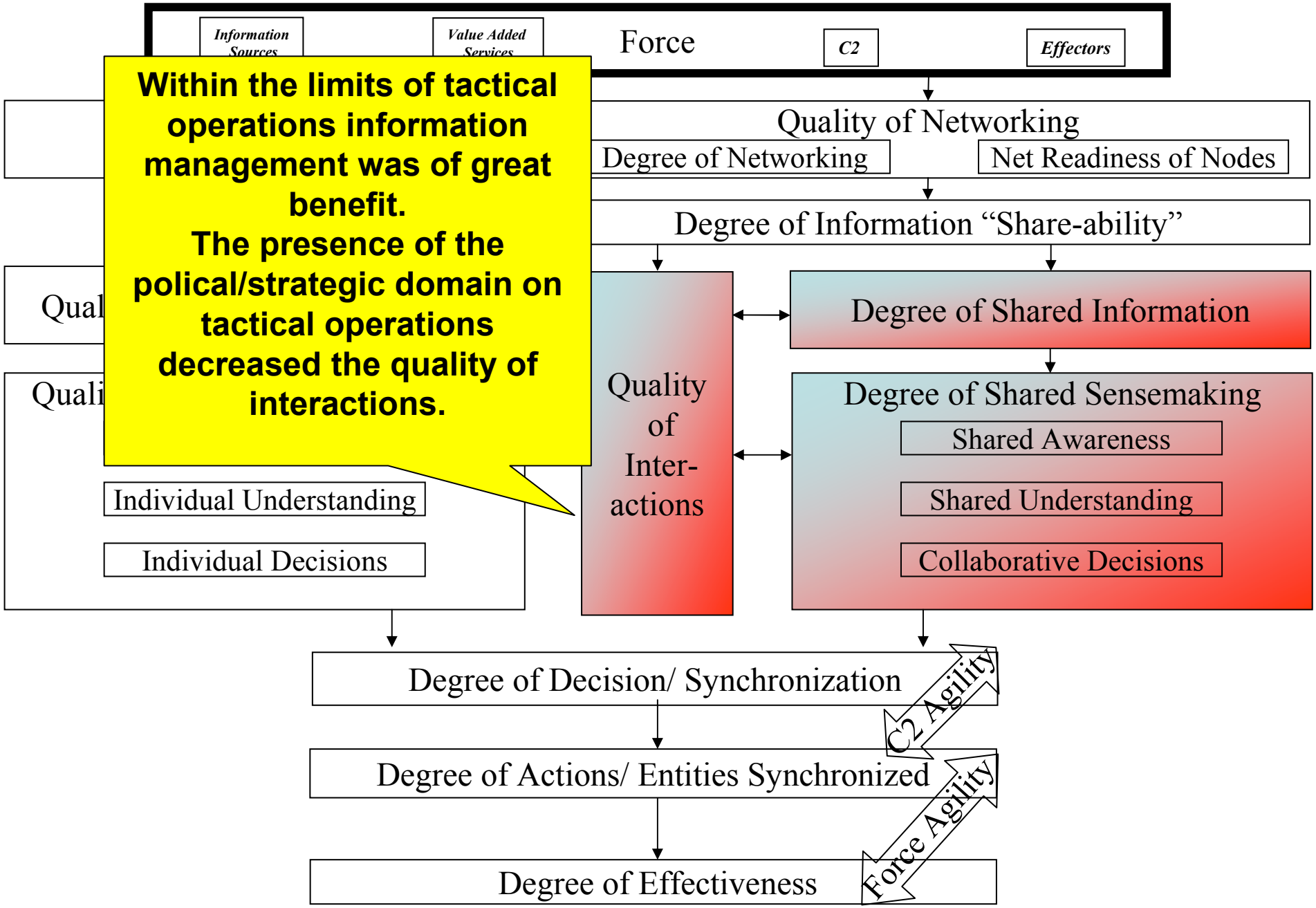
- Permanent activity
  - Changing information needs
  - Instead of push (reports & returns) pull (logbook, ISIS)
- 80% of information was Humint
  - Difficult in confirming and distributing
  - Sensitive and ‘colored’
  - Difficult in presenting in a ‘location based’ C2 support system

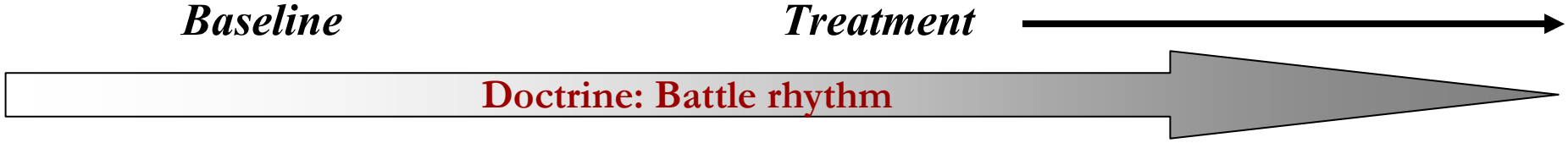


- Logbook was filled by battle captain: classically…not efficient
  - Chokepoint vs. prevention of information overload
  - **But….**monitoring of content by J3, process before publish
- Only one paper map in whole HQ TFF for battle captain
  - For overflow situations
- Separate information flows
  - Political, strategic: elections, SOF, national representatives
    - Caused lack of trust
  - Exchange based on need-to-know basis
  - National information flows, intelligence and guidance



- Bottom line
  - A lot of indications that the quality of interactions was less than expected
  - This was recognized as a necessary compromise due to broader sensitivities

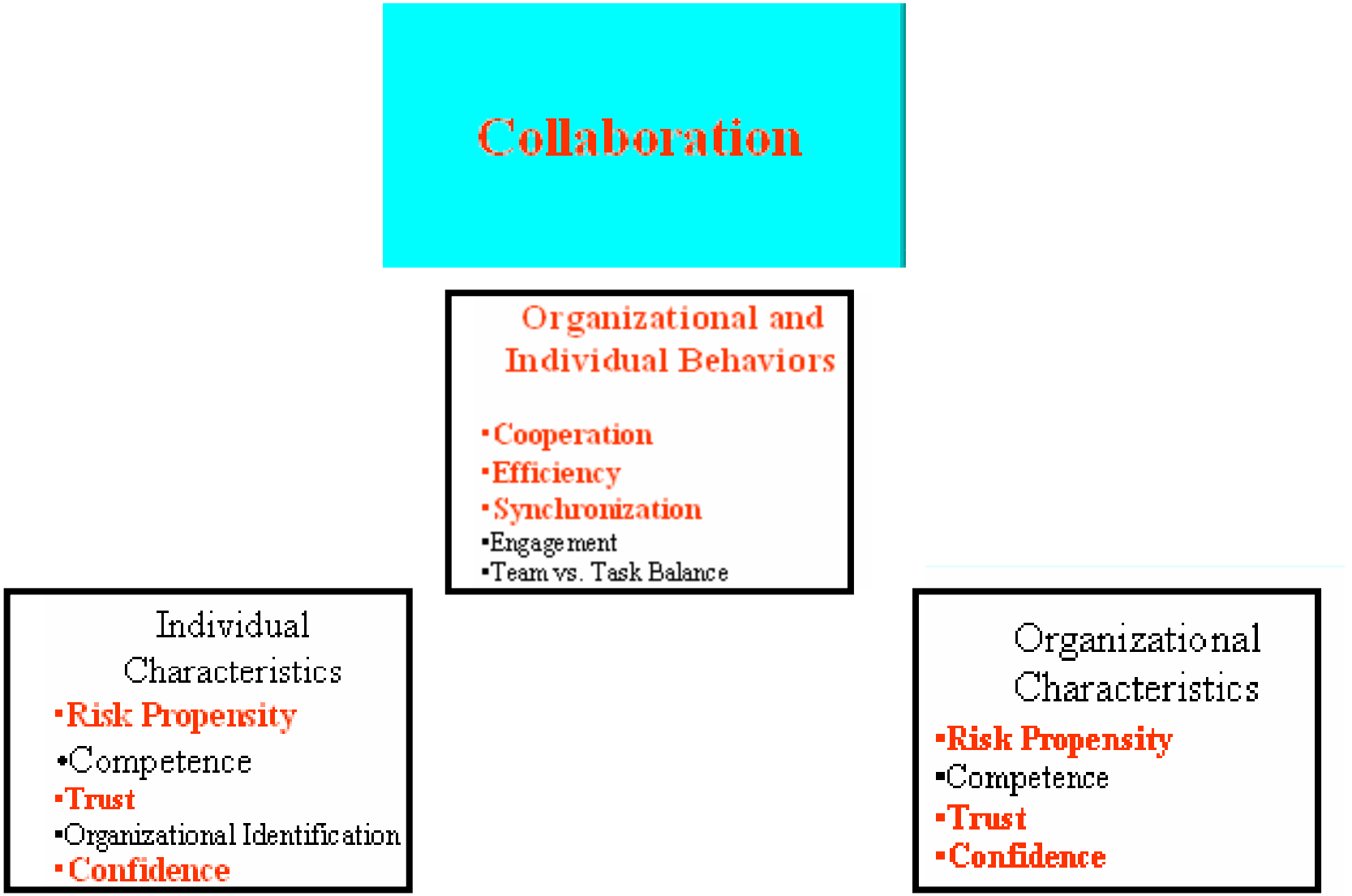

Information Sources
Value Added Services
Force
C2
Effectors
Within the limits of tactical operations information management was of great benefit.
The presence of the polical/strategic domain on tactical operations decreased the quality of interactions.
Quality of Networking
Degree of Networking
Net Readiness of Nodes
Degree of Information "Share-ability"
Qual
Quali
Individual Understanding
Individual Decisions
Quality of Inter-actions
Degree of Shared Information
Degree of Shared Sensemaking
Shared Awareness
Shared Understanding
Collaborative Decisions
Degree of Decision/ Synchronization
Degree of Actions/ Entities Synchronized
Degree of Effectiveness
C2 Agility
Force Agility

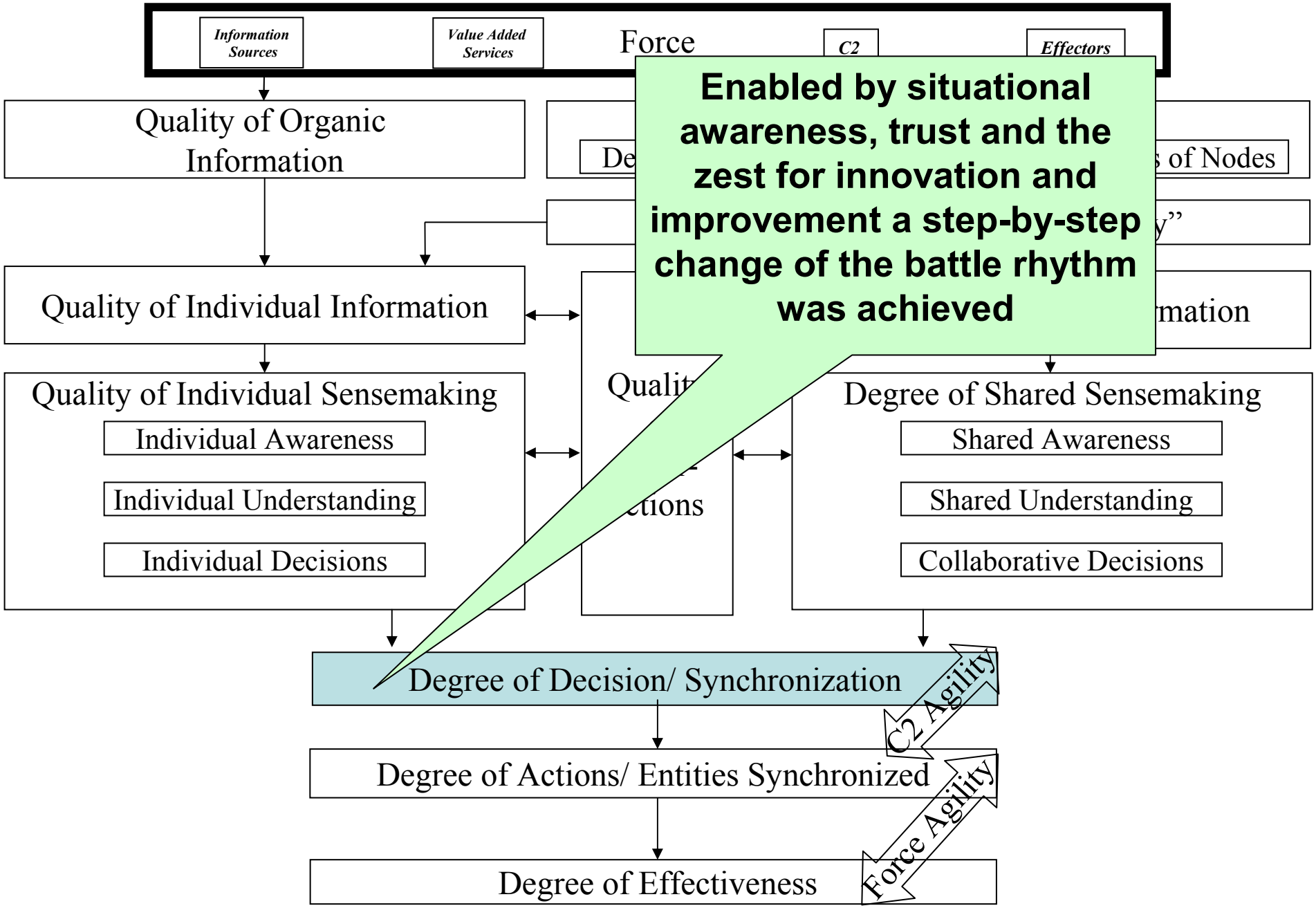


- Every morning and afternoon a Commander's update
- Coy commander's attended and received detailed orders on patrols
- PPT culture
- HQ every night busy with morning brief

- Once a week a Command decision briefing
  - Achieved in three steps;
  - Final result not achieved
- At night small team in HQ
  - Effort diminishment of 75%
- Daily briefs on specific, mission related topics, e.g. juridical
- Based upon improved Situational Awareness, trust in capabilities, leadership, culture.

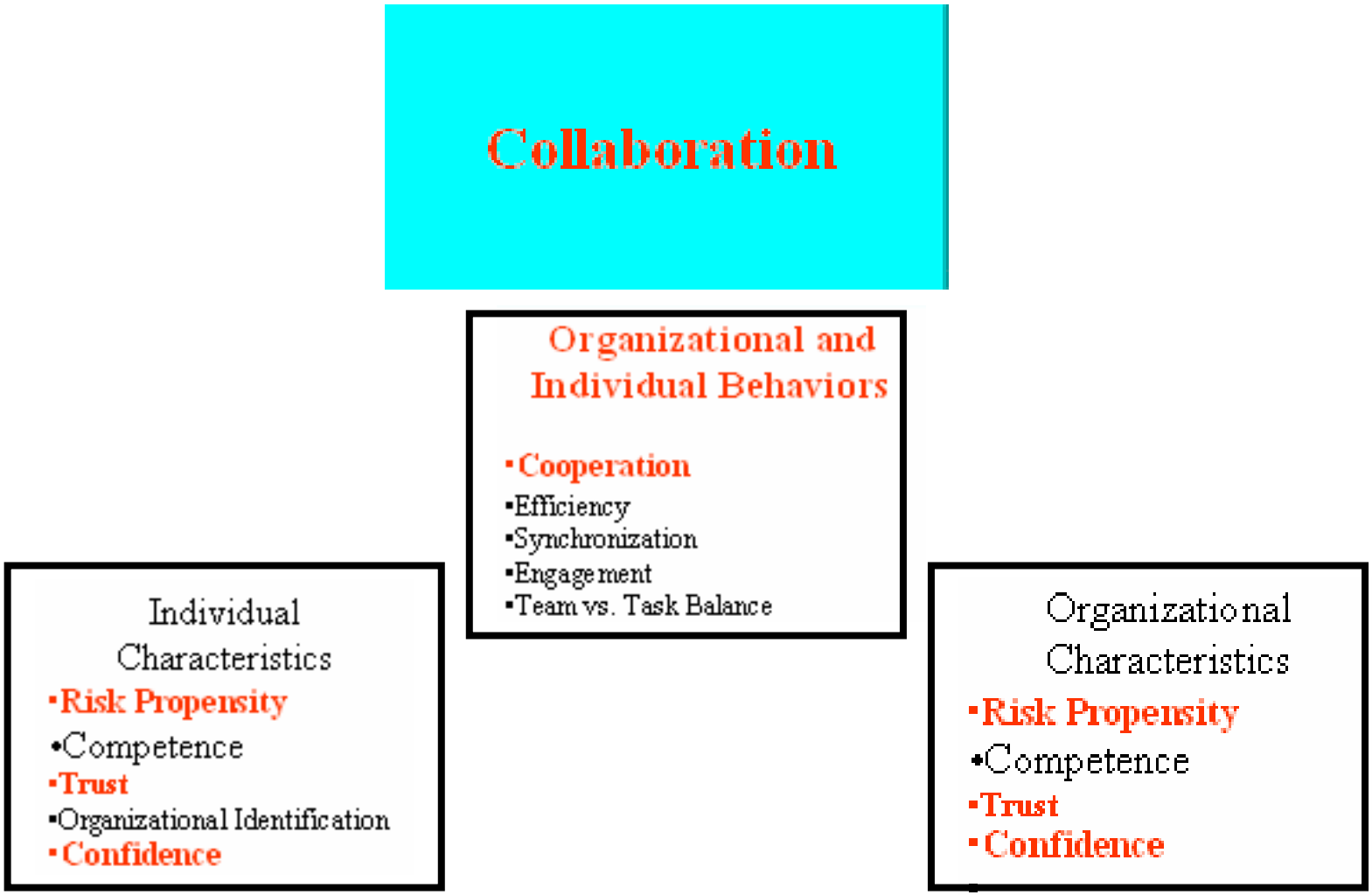
Doctrine (battle rhythm)

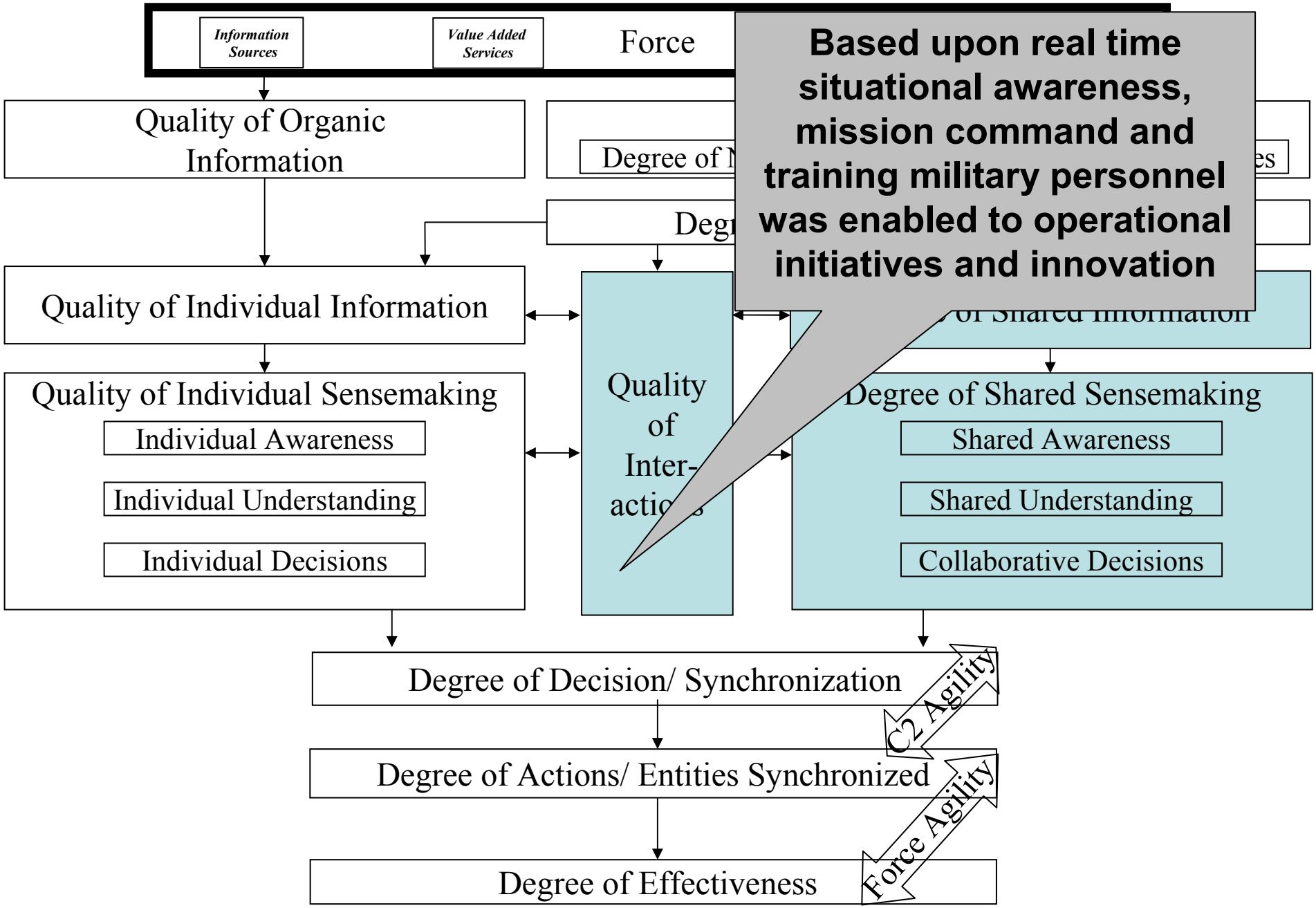



Information Sources
Value Added Services
Force
C2
Effectors
Quality of Organic Information
Quality of Individual Information
Quality of Individual Sensemaking
Individual Awareness
Individual Understanding
Individual Decisions
Degree of Shared Sensemaking
Shared Awareness
Shared Understanding
Collaborative Decisions
Enabled by situational awareness, trust and the zest for innovation and improvement a step-by-step change of the battle rhythm was achieved
Degree of Decision/ Synchronization
Degree of Actions/ Entities Synchronized
Degree of Effectiveness
C2 Agility
Force Agility

- Confidence was given at the start by commander
  - Freedom (mission command) was new and inspiring for personnel
  - Created space for initiative and innovation
- Challenges with rotation of personnel
  - Key players were inherited, not selected
  - Build up of culture of innovation
  - Continuity in transformation efforts

Personnel (culture)




Information Sources
Value Added Services
Force
Based upon real time situational awareness, mission command and training military personnel was enabled to operational initiatives and innovation
Quality of Organic Information
Quality of Individual Information
Quality of Individual Sensemaking
Individual Awareness
Individual Understanding
Individual Decisions
Quality of Inter-
Degree of Shared Sensemaking
Shared Awareness
Shared Understanding
Collaborative Decisions
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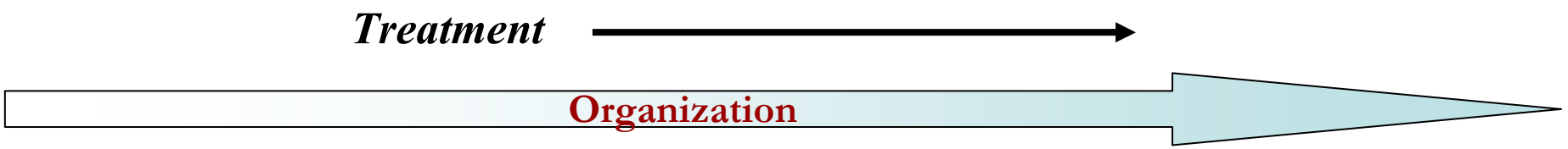
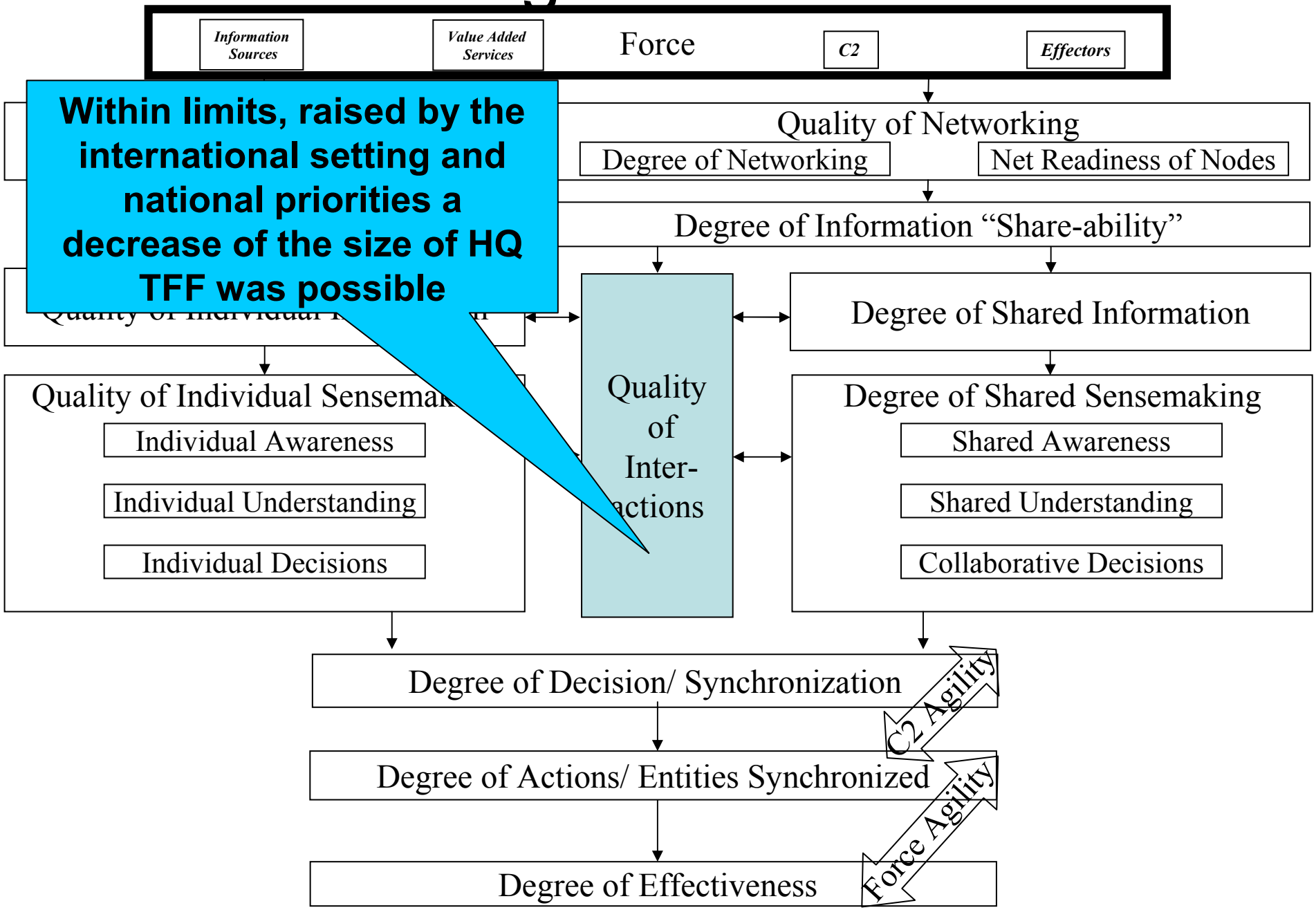


- Ad hoc coalition
  - Constant change of personnel
    - due to national timing
  - As well change of IT environment
    - Due to lead nation's assets
  - Change of command
    - HQ Amber Fox took over from TFF
    - Back to old procedures
- Size of HQ was small
  - NL personnel reduced by 20%
  - 'closeness' crucial for change and innovation

Organization



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Conclusions (1)

- Usage of C2 technologies improved SA and flexibility
- Logbook was killer application
  - Process before post
- Leadership was disruptive executed
  - Trust building in the network
  - Critical for mission command
  - Sharing of information
  - Overcoming cultural diversity

Conclusions (2)

- Taskforce commander was mainly political, strategic engaged
- Tactical issues were delegated to J3 and JOC director
- C2 team worked as innovation glue
  - Building of trust
  - Creating informal network
  - Facilitating innovation by SOPs

Conclusions (3)

- New C2 concept…
  - Enabled by leadership, technologies, culture etc
  - Higher degree of shared information

    …led to more transparent operation
- Information management
  - Supported change form reports-returns to event driven approach
  - Flexible management of the info spheres
    - Publish before post
  - Not uncontroversial towards NCW tenets

Conclusions (4)

- Battle rhythm
  - At the core of culture
    - Trust, competencies,
  - Step by step improvement of efficiency
    - From two times a day to once a week
- Personnel
  - Rotation schemes challenge continuity of transformation
  - Impact on trust, competencies, etc
- Organization
  - Serious change impossible due to multinational setting

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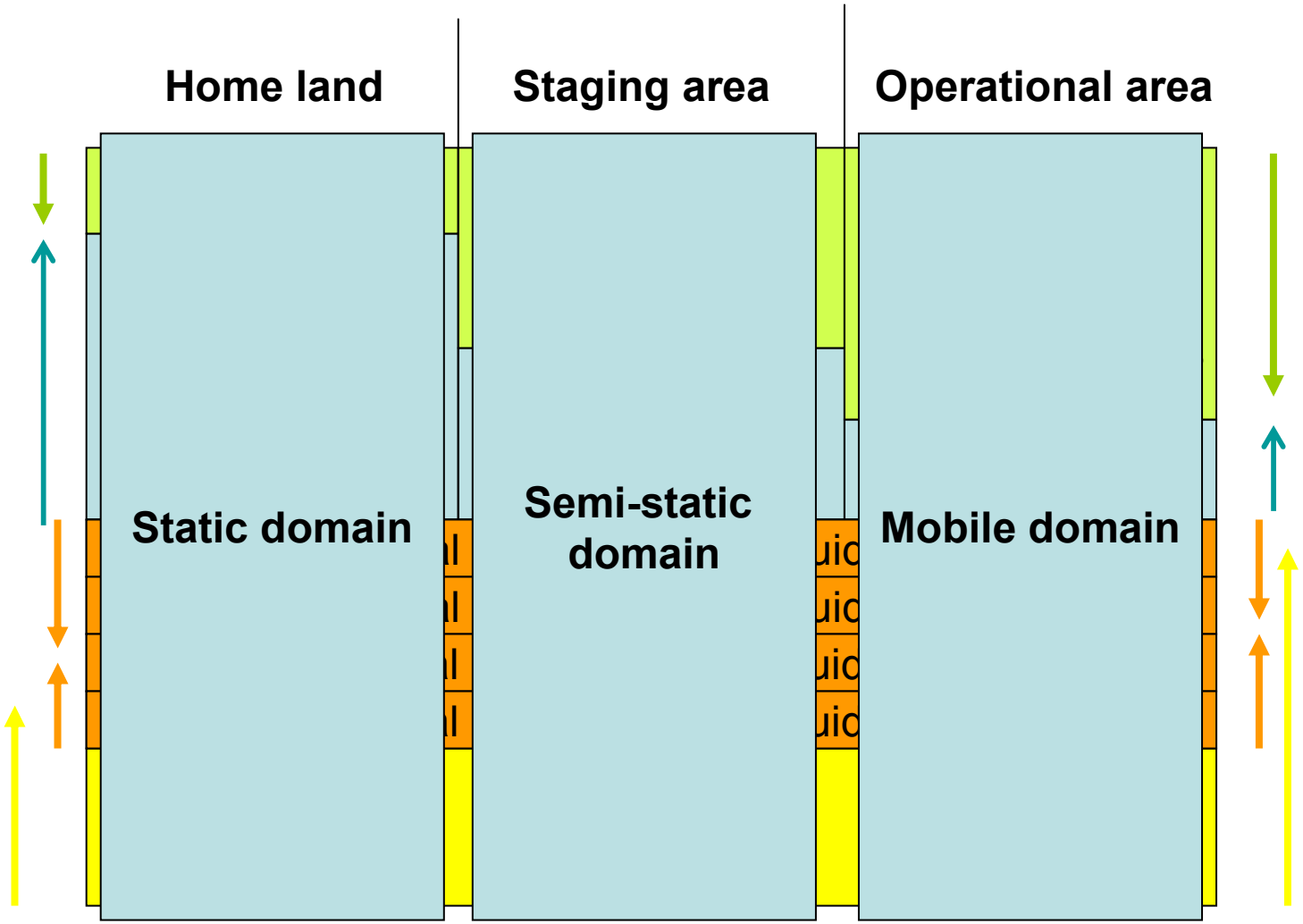
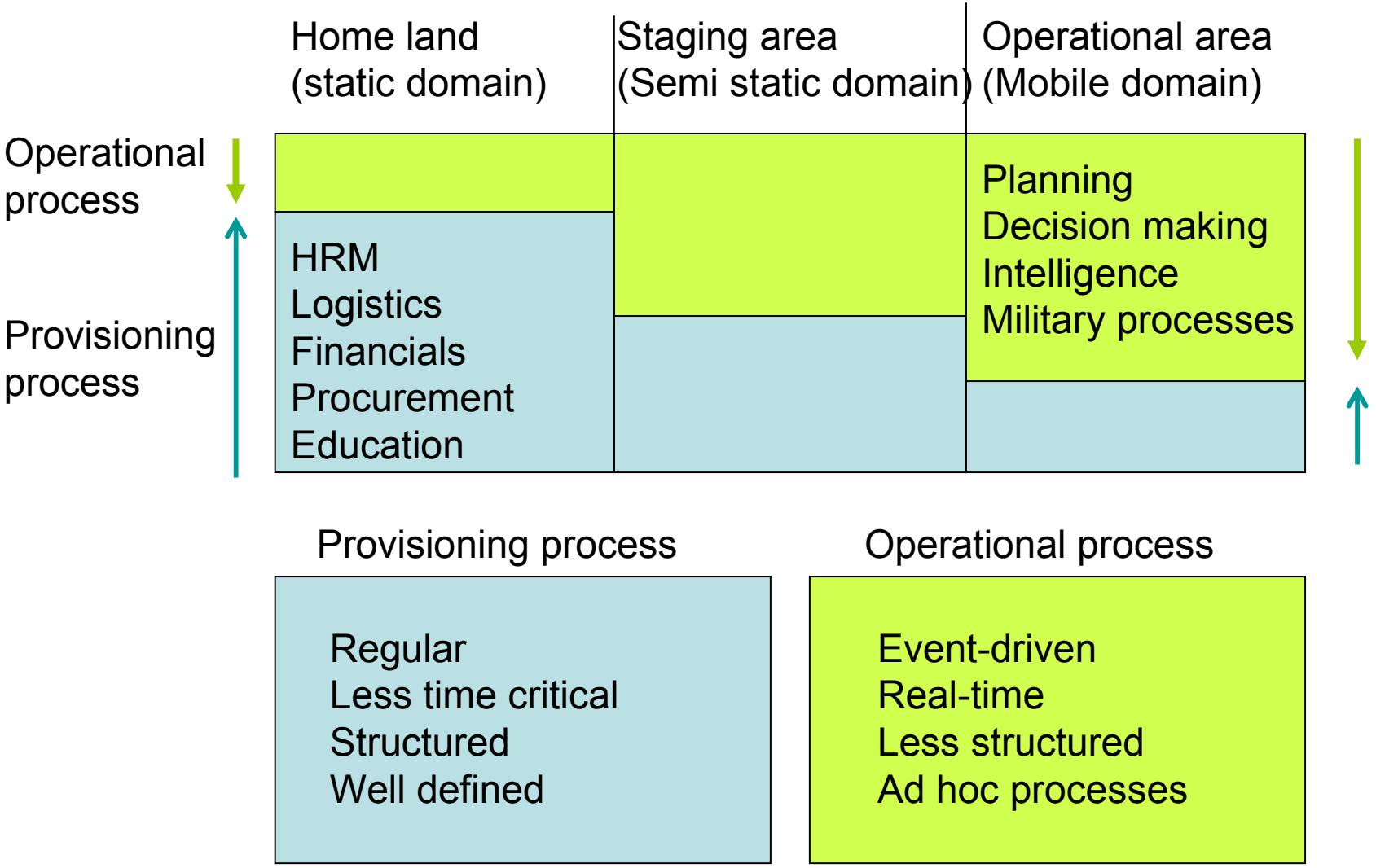
Processes in OOTW

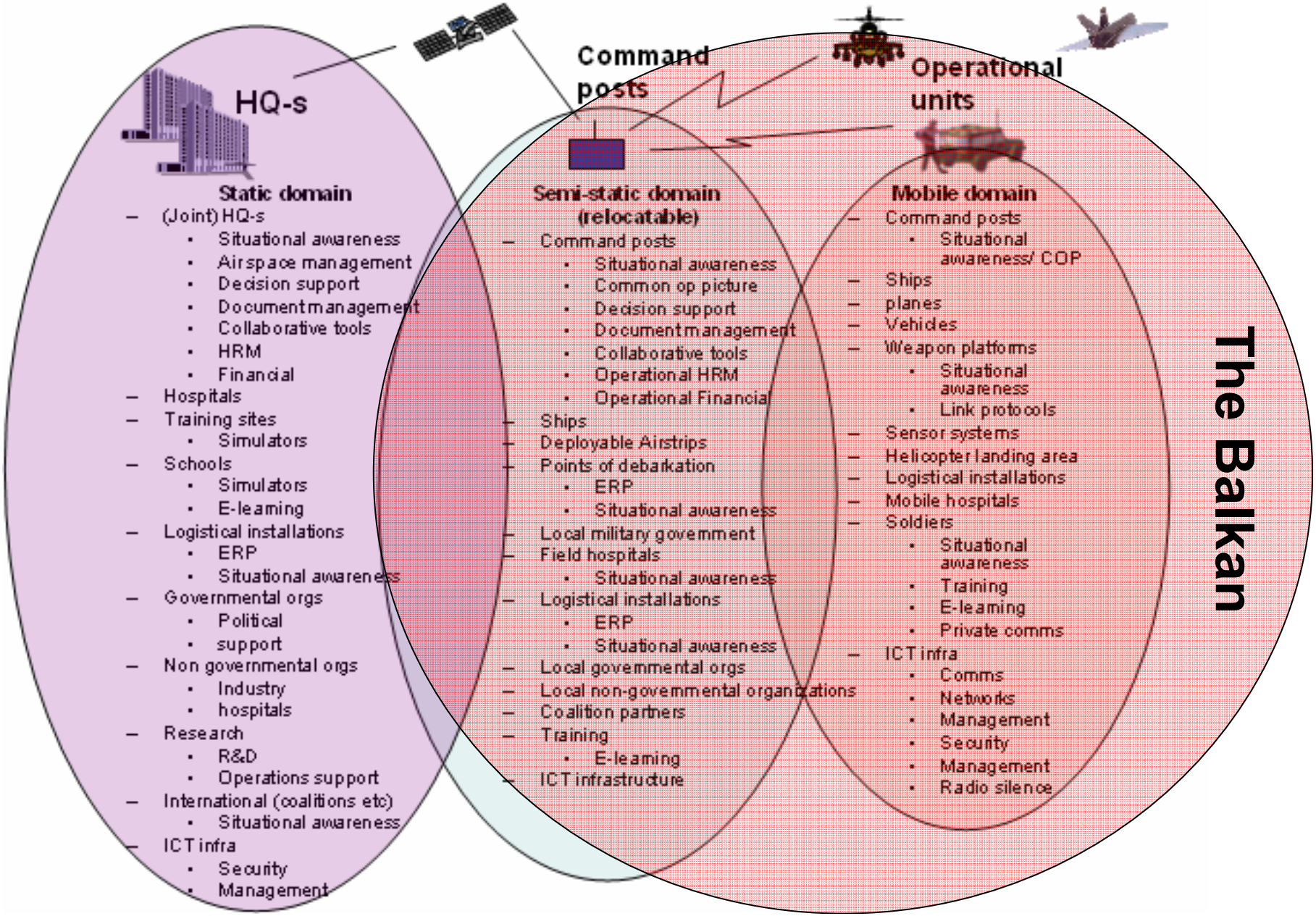


Emphasis changes per sub-domain

in time, per operation



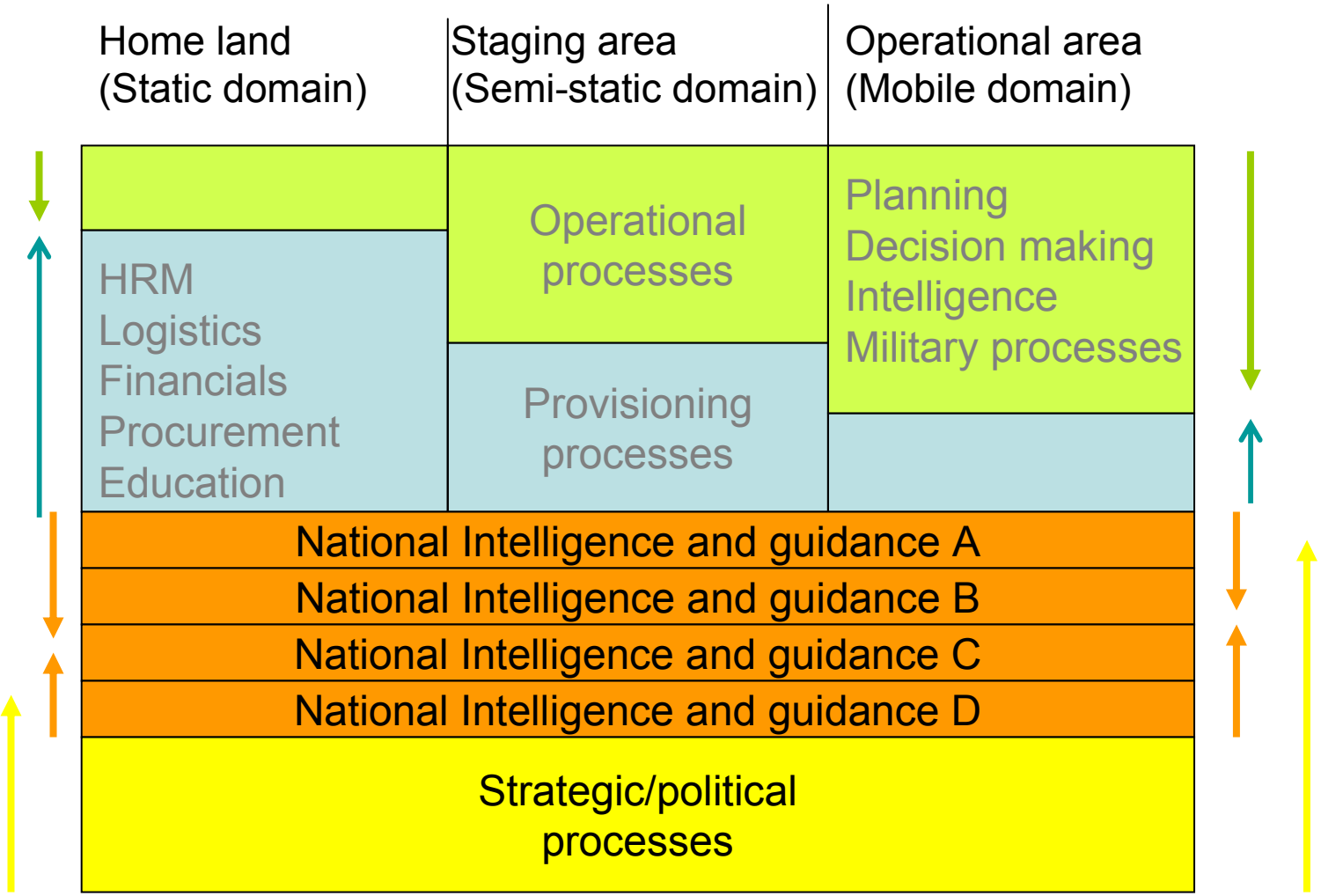
Examples of (related) processes



Operational context

- *Multi national units*
- *Multi national staffs*
- *Multi cultural*
- *Irregular rotations*
  - *Units*
  - *Services*
  - *Nation bound*

Processes in OOTW



Processes in OOTW

- *National intelligence and guidance*
  - *Separate flow of information*
  - *National guidance overrules chain of command*
- *Strategic/political processes*
  - *Blurring of the levels of warfare*
  - *Critical for success of operation*
  - *Interaction with UN, governments, local warriors, ethnic minorities etc.*

Insights

- *Step back…*
  - *Before applying the CF fresh look at the organization*
    - *Disconnected information spheres in OOTW*
    - *Operationally necessary*
- *Impact on applicability of NCO:*
  - *Per sub information sphere?*
  - *Need to separate?*
  - *Operational effectiveness may be enhanced by separation of information spheres*

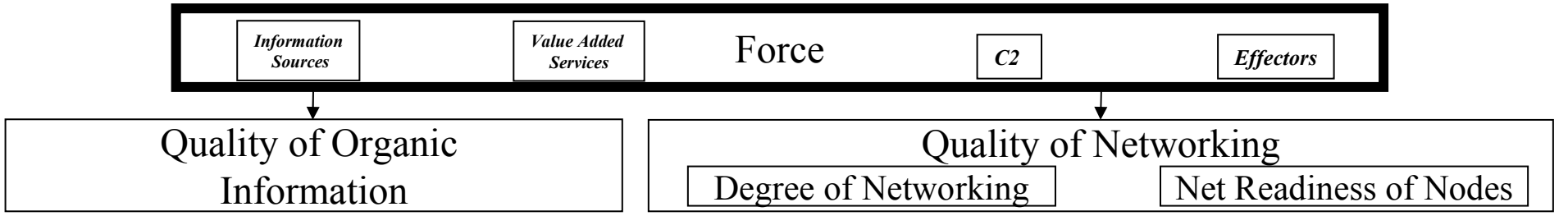
Insights (2)

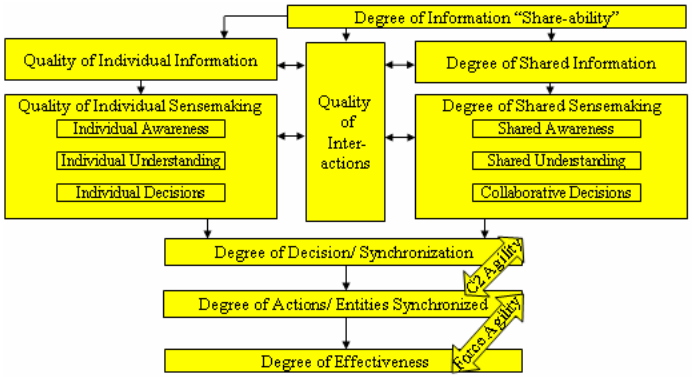
- *Need for agility!*
  - *Change of proportions always possible*
- *How to support agility?*
  - *Scaling up and down*
  - *Need for information infrastructure*
    - *Data exchange language*
    - *Data exchange protocol*
    - *Logic and rules*

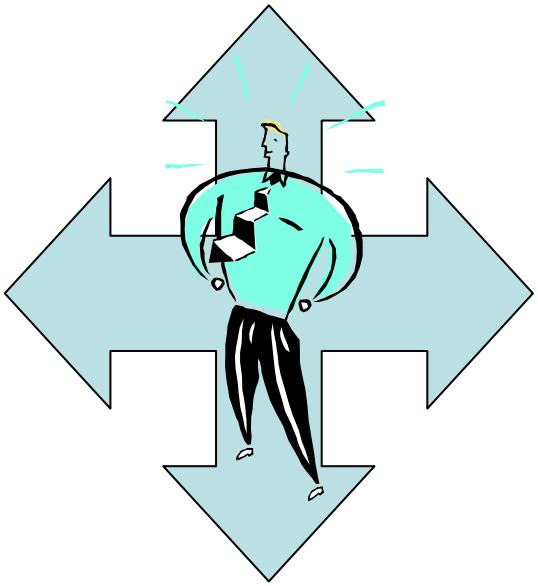
Major insight: Feedback on NCO CF

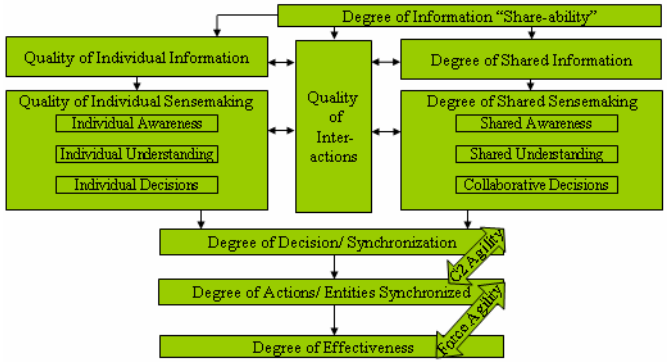
- Earlier presented evaluation
  - The CF does take care of essence of NCO, but not explicit: the process of a learning, operational organization
    - Re*info*rce CF with process elements
  - How to deal with human and experts derived info
- New evaluation points
  - Operational effectiveness may be enhanced by separation of information spheres
  - How to apply the CF to sub-domains?
    - E.g. strategic/political, tactical

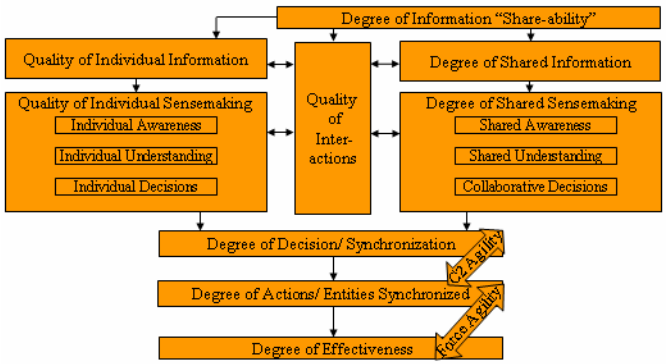
Solution direction











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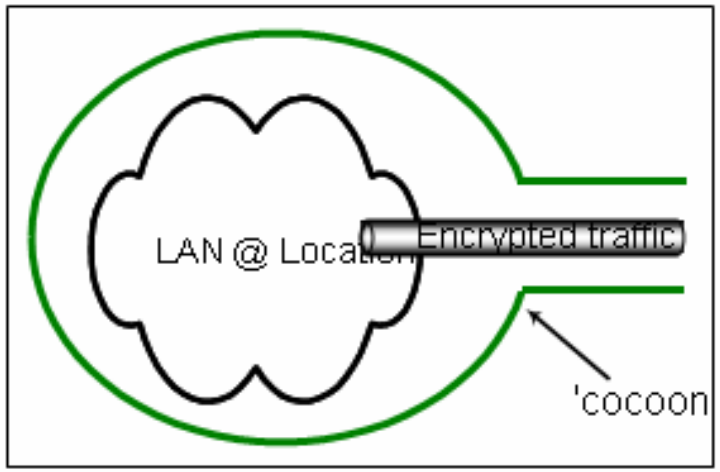
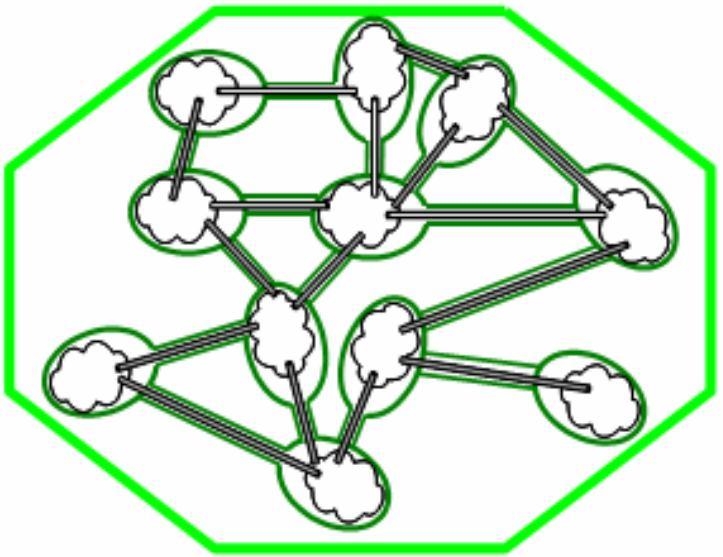
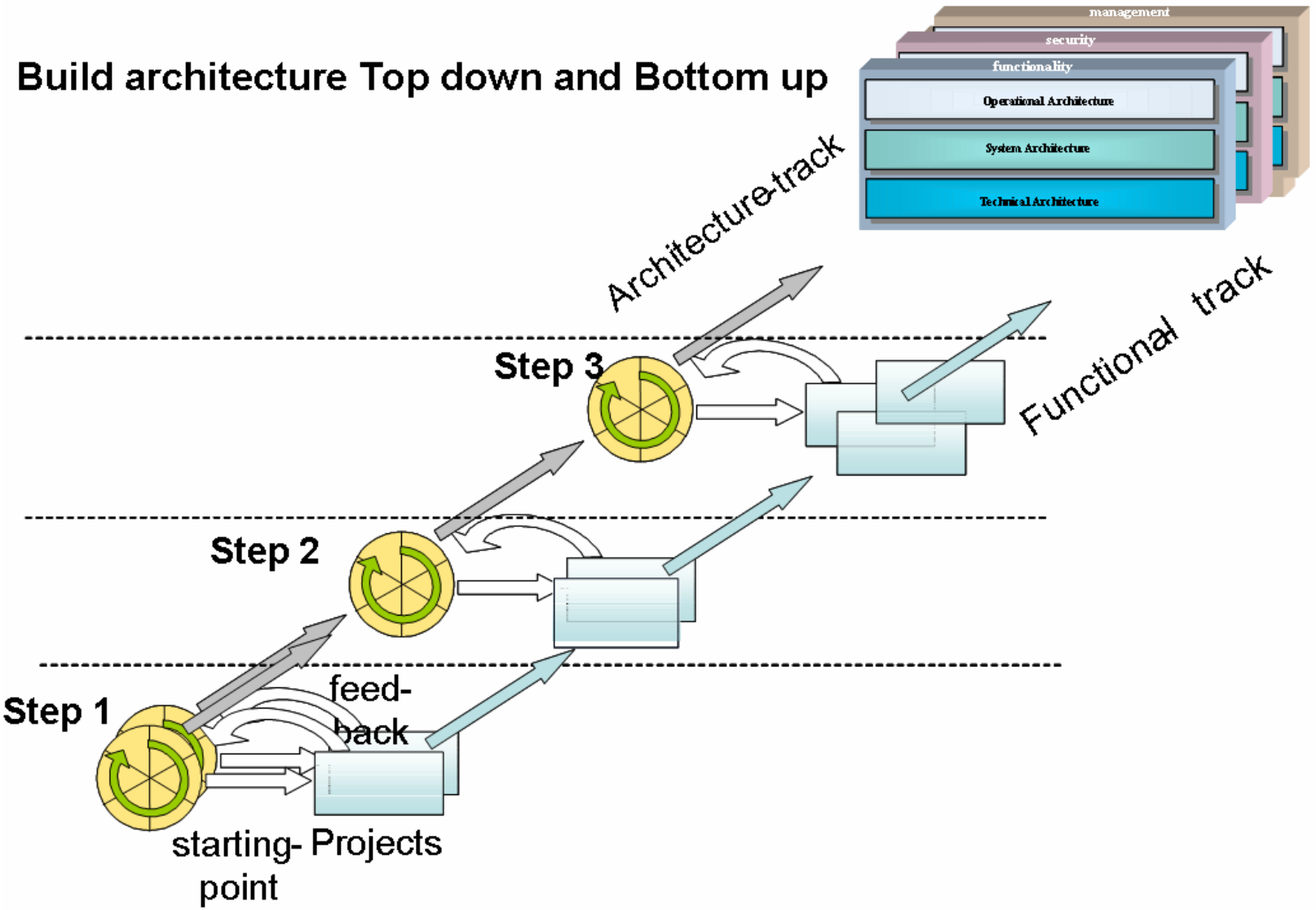
Case study on TITAAN

- Designed to cover the heterogeneous environment of OOTW





Built in interaction



Main challenges

- Keep continuity in the efforts on the case studies
- Create a CF that addresses the needs of operational commanders and political decision makers acting in the domains of OOTW and coalition operations